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ABSTRACT

The Substance Education Program of the Iowa Department of Education began a series of tri-annual studies of youth substance behaviors, attitudes, and knowledge in 1975, with later data collections in 1978, 1981, 1984, 1987, and 1990. This report presents the normative data from the 1990 survey which was administered to approximately 7,000 students in grades 6, 8 , 10, and 12, and makes relevant comparisons with earlier findings. A brief introduction is followed by a section on procedures which explains the selection of district and student samples. The next section describes findings based on students' self-reported use and nonuse during the fall months of 1990. For each of five categories (alcohol, tobacco, marijuana, other drugs, and polysubstance use), data are presented on age of onset of use and on the frequency of use by grade level, sex, and district size. The next section focuses on external influences on substance use and nonuse behaviors, looking specifically at the influence of the community, family, peers, and the school. A section on personal variables assesses internal influences on substance use or nonuse and presents data relevant to conforming and deviant behaviors. A summary and recommendations section concludes the document. The findings presented in this report on substance use and attitudes among Iowa youth shows the continuation of a 12-year decline in the use of alcohol, tobacco, and other drugs among Iowa teenagers. Eighty-five data tables are included. (NB)

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1990-91 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth

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1990-91 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth

Normative and Trend Data

Prepared by
Substance Education Program
Instruction and Curriculum Division
September, 1991

This study was supported in full by federal Drug-Free Schools and Communities funds.

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Foreword

Helping young people learn to say no to the use of alcohol and other drugs is an important responsibility shared by parents, educators and others. This report on substance use and attitudes among Iowa youth shows the continuation of a 12-year decline in the use of alcohol, tobacco and other drugs among Iowa teenagers. It tells us that more students are opting not to use alcohol and other drugs, and those who do choose to use substances are doing so less frequently.

This is encouraging news for parents, educators and communities. Our collective efforts are making differences in the lives of young people. But we have more work to do.

One of the six national education goals agreed to by the President and the nation's governors is that, by the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning. Accomplishing that goal in Iowa will require the continued support of government, school and community leaders, working in concert with parents and students.

The results of this study also point out an area that shows promise for making further improvements. Many of the students questioned said that they relied on their peers for information about substances and for help with substance problems. Their responses support the experiences of many Iowa school districts which have found that peer helping programs can have a positive affect on students' decisions about drugs and alcohol. The Department of Education will encourage peer helping programs as well as continue to provide training and information to educators and others on implementing high-quality peer helping programs.

Substance abuse prevention and intervention programs are important parts of a school's more comprehensive efforts to help ensure that Iowa children and youth learn and practice healthy behaviors so that they can learn to their fullest ability.

William L. Lepley, Ed.D.
Director, Iowa Department of Education

PREFACE

The Substance Education Program of the Iowa Department of Education began a series of tri-annual studies of youth substance behaviors, attitudes and knowledge in the fall of 1975. The youth studies have continued with data collections in 1978, 1981, 1984, 1987 and 1990.

The findings of previous studies were disseminated to Iowa educators, health planners and agencies that serve youth. These reports were useful in planning and implementing substance education, prevention and intervention programs in Iowa. The report of the 1990 findings should prove to be as useful.

The findings of the 1990-91 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth will be presented in three separate reports:

- Normative data for 1990 and relevant comparisons with 1975, 1978, 1981, 1984 and 1987 findings.
- Individual district reports of student responses to selected survey items.
- Normative data packets for the four size categories of districts.

This report deals with normative data on several items for the 1990 youth survey. Several comparisons with prior studies are also presented.

The reader will appreciate the positive tone of this report. The series of youth surveys indicates some very positive characteristics in a majority of Iowa youth and familes.

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I. Introduction

Substance use continues to present some serious social problems for school persons, law enforcement persons, health professionals and Iowa citizens. Substance use and abuse always presents possible harm to the user's health and the well-being of his or her family. Current data on youth substance behaviors, knowledge and attitudes is important in responsibly addressing these social and health issues.

During the 1970s, a number of prevention programs were introduced in Iowa schools and communities in an attempt to reduce the occurrence and severity of the social and health problems related to substance use. Several significant socioeconomic events have occurred in recent years, such as public sensitivity to drinking and driving issues, and declining enrollments. These prevention efforts and socioeconomic events have very likely affected youth substance behaviors and attitudes.

The 1990-91 Iowa Study of Alcohol and Drug Behaviors and Attitudes Among Youth attempted to answer four questions:

- What is the status of substance use, attitudes and knowledge among youth?
- What are some important trends in youth substance use, attitudes and knowledge?
- Which people seem to be the major influences in a youth's decision to use or not to use substances?
- What actions do the findings of the 1990-91 study suggest for school persons and others?

Several investigators have studied adolescent substance use. Their studies have identified many variables of particular relevance in assessing substance use, attitudes and knowledge among youth. The research designs and findings of four groups of researchers were particularly important to the present study.[1]

These studies suggested that the 1990-91 survey instrument include the following variables:

Dependent Variables:

Use/nonuse of substances.

Independent Variables:

Parent modeling behaviors
Parent normative standards
Peer modeling behaviors
School normative standards
Perceived school influence

Intervening Variables

A. Adolescent preferences
   - decision-making style
   - motives for not using substances
   - motives for using substances
   - religiousity

B. Adolescent norms
   - attitudes toward substance behaviors
   - general substance attitudes
   - age of onset of substance use
   - conventional (nonsubstance) behaviors
   - deviant behaviors

Survey items were selected to assess those variables.

A pilot test of the 1990-91 youth survey was conducted during April of 1990 in four Iowa school districts and two treatment centers for adolescent substance abusers. The pilot study produced a 113-question survey which was administered statewide in October and November, 1990.

The final version of the youth survey was designed to be answered anonymously by students in grades six, eight, 10 and 12. Almost every student could complete the survey in 50 minutes or less.

[1]Jessor, Richard; Chase, James A.; and Donovan, John E. "Psychosocial Correlates of Marijuana Use and Problem Drinking in a National Sample of Adolescents." *American Journal of Public Health*. Vol. 70, No. 6, June 1980, p. 604.
Biddle, Bruce J.; Bank, Barbara J.; and Martin, Marjorie M. *"Parental and Peer Influence on Adolescents."* Social Forces, Vol. 58, June 1980, pp. 1057-1079.
Johnston, Floyd D.; Backman, Jerald G.; and O'Malley, Patrick M. *Highlights from Student Drug Use in America* 1975-1983. Rockville, Maryland: National Institute on Drug Abuse, 1984.
Benson, Peter L. *The Troubled Journey: A Portrait of 6th-12th Grade Youth*. Minneapolis, MN: Search Institute, 1990.

II. Procedures

The 1990-91 study followed many of the same procedures used in the preceding five surveys. In late August, 1990, a letter was sent to the superintendents of 86 school districts. Each superintendent was informed of the purposes of the study and the procedures to be followed locally. The superintendent was given the choice of participating or not participating in the youth survey. Ten school districts chose not to participate.

The superintendents' letter asked them to do the following:

- Randomly select students for grade-level samples.
- Schedule times and places for group administration of the survey.
- Send parent consent letters home with students.
- Return completed surveys to the DE by December, 1990.

Completed youth surveys were edited and coded upon receipt at the DE. Data from individual survey forms were key-punched and entered on a computer file. Data analyses were conducted through a contract with the Statistical Laboratory at Iowa State University.

In July, 1991, a data packet was sent to each of the participating districts. The packet contained local data on all items from the 1990 survey. Normative data for districts of similar size are available to districts.

1. Selection of District Samples

Two sampling procedures were used in the 1990 study. One sampling procedure (trend analysis) involved repeated measures in school districts that were originally selected in 1975. The second procedure (school enrollment) added school districts to more adequately represent youth and schools in relationship to changes in school enrollments.

A stratified random sample of Iowa public school districts were prepared for the 1975 youth survey. The 1975 sampling design represented four population categories (urban, semiurban, semirural and rural) of Iowa public school districts based on the total school enrollment and the general population density of the school district. The sampling design also accounted for representation of school districts according to four geographical regions. School districts were selected based on their enrollment, population density, and distribution within the state of Iowa.

The 1975 sampling procedure was reviewed with the 1990 U.S. Census data and 1990-91 school enrollment data. The design was found to be appropriate for trend analysis between the six studies of 1975, 1978, 1981, 1984, 1987 and 1990.

Table 1 describes the distribution of school district samples and the rate of participation in the 1990 survey.

Table 1
School District Samples for 1990

Categories of Districts	Urban	Semiurban	Semirural	Rural	Total
Total Number of Iowa Districts in Category	7	25	54	339	425
Total Number of Districts in 1987 Study	4	12	28	32	76
Percent of Total Number of Iowa Districts in Categories	57%	48%	52%	9%	18%

2. Selection of Student Samples

The student samples were selected by building and grade level. The superintendent was informed of individual buildings in the district from which student samples were to be selected. School personnel were to randomly select a minimum of 18 students in each of the sixth, eighth, 10th and 12th grades. A small district, therefore, was expected to draw a minimum sample of 72 students. Larger districts with more attendance centers were expected to produce larger student samples.

Table 2 describes the actual and ideal student samples by size categories of schools. Table 3 describes the actual and ideal distribution of student samples by grade level.

Table 2
Student Samples by District Size Categories

	Urban	Semiurban	Semirural	Rural	Total
Actual Sample	1,202 (17%)	1,154 (17%)	2,045 (30%)	2,522 (36%)	6,923
Ideal Sample	1,810 (25%)	1,376 (19%)	1,303 (18%)	2,751 (38%)	7,240

Table 3
Student Samples by Grade Level

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Actual Sample	1,782 (25%)	1,828 (25%)	1,882 (26%)	1,677 (23%)	7,169
Ideal Sample	1,882 (26%)	1,810 (25%)	1,738 (24%)	1,810 (26%)	7,240

The weighting procedure was applied in the data analyses to account for discrepancies between the ideal and actual student samples. Similar weighting procedures were also applied with 1975, 1978, 1981, 1984 and 1987 data in order to make comparisons across studies.

Table 4 describes the sex and grade-level distributions in the 1990 youth sample.

Some sampling biases should be considered in interpreting the results of the 1990 youth survey:

- The study sample included public school districts only. No attempt was made to sample nonpublic school students.
- School districts were permitted to not participate in the survey; 88 percent of the invited districts participated in the present study.
- Students and parents were permitted to not participate in the survey; 97 percent of the school districts met or surpassed their minimum sample size.
- No attempt was made to sample youth who were absent from school or who had "dropped out" of school.

Table 4
Students Completing the Survey by Grade Level and Sex

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Male	861 (48%)	907 (50%)	898 (48%)	805 (48%)	3,471 (48%)
Female	919 (52%)	919 (50%)	983 (52%)	871 (52%)	3,692 (52%)
Totals	1,780	1,826	1,881	1,676	7,163

3. Youth Survey Instrument

The 113-item survey was developed for administration to students in grades six, eight, 10 and 12. The instrument was designed to be readable and answerable by students at each of the four grade levels. Students were informed that it would take less than 50 minutes to complete the survey, that they could choose not to respond to some questions, and that their responses would remain confidential.

The survey was organized in six sections:

Demographic: questions 1-5
Peer influence: questions 8-12, 29-34, 55-58, 79-80
Parent influence: questions 55-58, 79-80, 104-113
School influence: questions 55-58, 79-80, 81-84
Personal preferences: questions 13-22, 23-28, 35-37, 38-40, 41-44, 52-54, 59-60, 61-70, 71-78
Substance use/nonuse: questions 45-51

Several questions were designed to have students rate or assess the magnitude of the influence exerted by peers, parents and schools upon their substance behaviors.

The remainder of this report presents findings of the study grouped into four sections: self-reported substance use, influencers of substance use/nonuse behavior, personal variables, and summary and recommendations.

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III. Self-Reported Substance Use and Nonuse

This section describes findings related to student substance use and nonuse. These findings are based on self-reported use and nonuse during the fall months of 1990.

Substance use data in the 1990 study were comparable to data collected nationally by the Institute for Social Research at the University of Michigan. Comparison of self-reported use between the four categories of school districts also appears to substantiate the reliability of the substance use/nonuse data.

This part of the report covers five topics: alcohol use and nonuse, tobacco use and nonuse, marijuana use and nonuse, other drug use and nonuse, and polysubstance use. Data in each section are presented according to the following format:

Age of onset
Frequency of use by grade level (1975-78-81-84-87-90)
Frequency of use by sex (1975-78-81-84-87-90)
Frequency of use by district size (1975-78-81-84-87-90)
Summary

Some information about the frequency of substance use was clustered. The frequency-of-use questions (question 45 alcohol, question 49 marijuana, and question 50 other drugs) each had nine possible responses, clustered as follows:

Nonuse included:	I never use/drink, and I have used--, but I don't now
Casual use included:	Less than once a month, and about once a month
Regular use included:	2 or 3 times each month, and about once a week
Heavy use included:	2 or 3 times a week, 4 or more times a week, and about once or more each day

The frequency of tobacco use (question 47) is reported in tables as follows:

Nonuse included:	I never smoke tobacco, and I have smoked, but I don't now
Casual use included:	Smoke occasionally (1-6 times) each week
Regular use included:	Smoke several (7-25) times each week
Heavy use included:	Smoke 4-10 times each day, and smoke more than 11 times each day

The frequency of anabolic steroid use (question 51) is reported in a table as follows:

Never Use
Tried But Stopped
Occasionally (1-3 times per month)
Frequently (1-3 times per week)
Daily

The term "ever used" includes any reported frequency of use and the response, "I have used--, but I don't now." All data appearing in tables are percentages of samples responding to the questions.

1. Alcohol Use and Nonuse

The age of onset for alcohol use was assessed by asking students how old they were the first time they ever had their own glass of beer or wine, shot of liquor, or a mixed drink of any kind. Student responses for this question are reported in Table 5.

Some observations are appropriate from Table 5. Approximately 92 percent of the 12th grade sample had tried alcohol. Most youth (60-70 percent) had tried alcohol by age 14. A slightly greater percentage of sixth and eighth grade youth had tried alcohol by age 12 than had their 10th and 12th grade counterparts.

The patterns for age-of-onset for alcohol use were similar in the 1978, 1981, 1984, and 1987 studies. However, slightly more students at each grade level had never tried alcohol than in previous studies.

Table 5
Age of Onset for Alcohol Use by Grade Levels

	Never Tried Alcohol	Tried Alcohol by Age 12	Tried Alcohol by Age 14	Tried Alcohol by Age 16	Tried Alcohol by Age 18
Grade 6	57	43			
Grade 8	30	53	69		
Grade 10	14	45	70	85	
Grade 12	8	32	60	85	92

Age-of-onset data for 12th grade students did not vary in comparisons between the six study years. The percentage of 12th grade students who never tried alcohol was 5-8 percent in each study year. More than 53 percent of the 12th grade students in 1990 had tried alcohol between ages 13 and 16, compared to 54 percent of 12th grade students in 1987, 52 percent 12th grade students in 1984, 50 percent of 12th grade students in 1981, and 49 percent of 12th grade students in 1978.

The percent of grade level samples who had **never tried** alcohol are reported in Table 6. The data indicate an increase in the number of students who had never used alcohol. This trend toward "never used" was apparent across grade levels and the four study years cited.

Table 6
Percent of Grade Level Samples Never Using Alcohol

	6th Grade	8th Grade	10th Grade	12th Grade
1990	57	30	14	8
1987	54	26	11	5
1984	51	26	11	5
1981	46	22	11	6

Age-of-onset for alcohol use data were compared between the various size categories of schools. These comparisons indicated that 69 percent of urban youth, 64 percent of semiurban youth, 68 percent of semirural youth, and 64 percent of rural youth had tried alcohol by age 16.

The frequency of alcohol use by grade level is reported in Table 7. This table presents the reported frequencies of alcohol use in the six study years.

Students were asked to identify the frequency of their alcohol use through the question, "During an average month, how often do you usually drink any amount of beer, wine, or liquor?"

A few general patterns are apparent from the 1990 data in Table 7. The frequency of alcohol use increased with age. The greatest decreases in the number of nonusers seemed to occur between eighth and 10th grade. A relatively large increase (13 percent) in the number of casual users of alcohol seemed to occur between sixth and eighth grades. The largest increase (14 percent) in regular use of alcohol was apparent between eighth and 10th grades. The greatest increase (4 percent) in heavy use of alcohol was observed between 10th and 12th grades.

More students in each grade said that they were nonusers of alcohol in 1990 than was true in other study years. This downward trend in alcohol use was apparent in each category of use and for each grade level with the exception of casual use among tenth grade students.

Table 7
Percentages of Grade Level Samples Reporting Alcohol Use in 1975-1990

		Total	6th Grade	8th Grade	10th Grade	12th Grade
Nonuse	1975	39.1	62.6	43.3	28.6	16.1
	1978	41.2	67.5	52.0	28.0	19.2
	1981	45.8	72.6	53.7	32.7	19.8
	1984	47.7	80.4	58.2	34.4	22.4
	1987	50.7	83.3	60.6	37.7	23.2
	1990	56.6	87.9	66.0	41.7	29.9
Casual	1975	33.0	27.8	37.3	38.2	28.8
	1978	31.2	23.6	33.9	36.0	28.8
	1981	26.9	20.6	30.6	33.3	23.5
	1984	25.4	14.8	29.6	31.7	24.0
	1987	23.6	12.8	25.6	26.7	23.6
	1990	22.4	8.5	21.9	28.6	30.3
Regular	1975	20.9	7.8	16.2	27.9	36.5
	1978	21.3	7.3	11.9	29.6	36.8
	1981	21.3	5.8	14.3	28.6	39.4
	1984	21.0	3.9	10.4	27.7	39.5
	1987	20.0	2.8	11.4	25.9	38.3
	1990	16.6	2.6	10.0	24.2	30.2
Heavy	1975	6.9	1.7	3.2	7.3	18.4
	1978	6.2	1.6	2.3	6.4	15.1
	1981	6.0	1.1	1.4	5.4	17.3
	1984	6.0	.9	1.8	6.3	14.1
	1987	5.5	.8	2.2	6.8	11.7
	1990	4.3	.6	1.9	5.4	9.4

Alcohol Use Among Total Samples
1975, 1978, 1981, 1984, 1987 and 1990

Fig. A

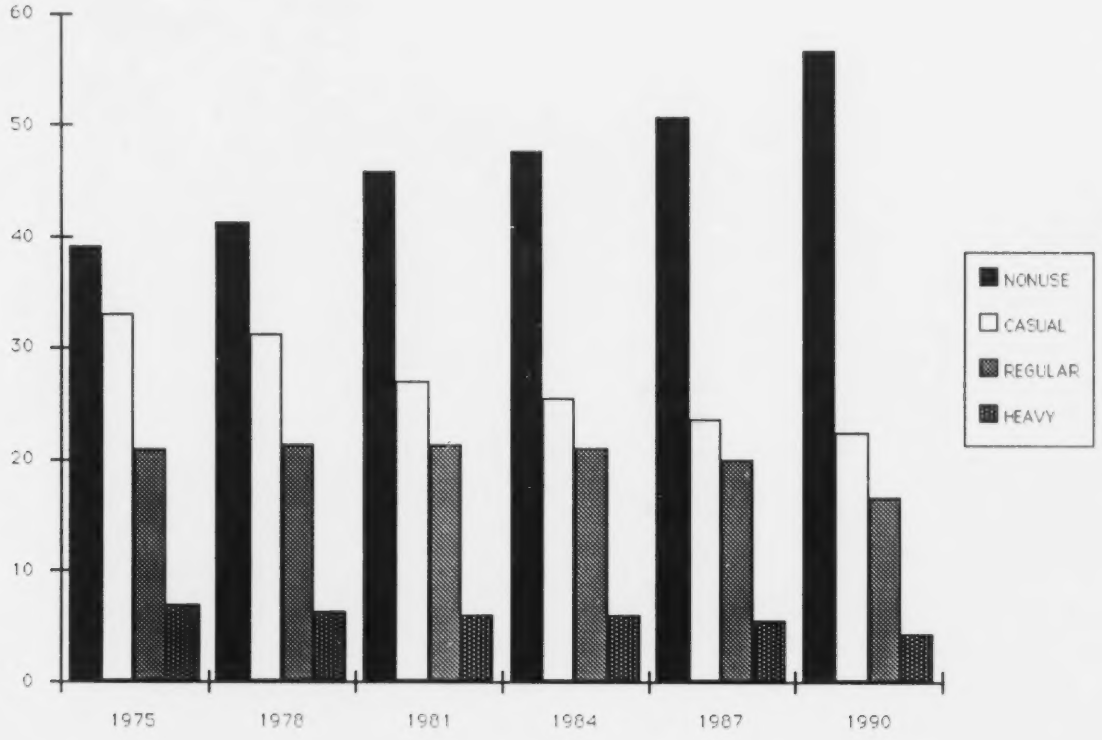


Figure A illustrates an increase in the number of nonusers of alcohol in 1990 as compared to 1975, 1978, 1981, 1984 and 1990. The graph also demonstrates a decline in the number of casual, regular and heavy users of alcohol.

Comparisons of male and female frequency of alcohol use are reported in Table 8. The 1990 data indicate that male and female students were very similar in the frequency of alcohol use. Female students were less likely to be heavy alcohol users and more likely to be abstainers than were male and students. Both male and female students were less likely to use alcohol in 1990 than they were in the previous studies. Male and female students were very similar in comparisons of their casual and regular use in 1990.

Table 8
Percent Male and Female Reporting Alcohol Use in 1975 - 1990

		Never Used	Ever Used	Casual	Regular	Heavy
Male	1975	33.4	*	35.3	22.7	8.7
	1978	39.4	71.2	29.1	23.6	7.8
	1981	30.4	69.6	26.7	23.4	8.7
	1984	33.8	66.2	25.7	21.2	7.7
	1987	38.2	61.8	23.2	20.2	6.8
	1990	42.3	57.7	20.8	17.3	5.2
Female	1975	45.0	*	30.8	19.2	5.2
	1978	42.7	63.7	33.1	19.3	4.8
	1981	35.3	64.7	25.6	23.5	5.2
	1984	39.2	60.8	25.2	20.9	4.4
	1987	40.6	59.4	24.0	19.8	4.3
	1990	45.1	54.9	23.7	16.1	3.3

*Unable to calculate due to wording of question in 1975

Some differences in alcohol use patterns among the four categories of school districts are evident in Table 9. In general, alcohol use in 1990 appeared to be least prevalent in semirural and rural schools and most prevalent in urban schools. Casual and regular use was very similar in each category of school districts. Heavy use seemed to be more frequent in semirural and least frequent in rural schools.

Comparisons of school districts in the various survey years indicate an increase in the number of nonusers of alcohol in 1990. The greatest increase in nonuse occurred in semiurban districts.

Table 9
Percentages of Student Samples Reporting Alcohol Use by District Size in 1975 - 1990

		Urban	Semiurban	Semirural	Rural	Total Sample
Nonuse	1975	40.8	41.0	38.5	37.3	39.1
	1978	35.7	43.6	42.0	43.2	41.2
	1981	46.7	49.7	45.6	42.8	45.3
	1984	46.1	47.6	49.5	47.6	47.6
	1987	46.9	51.1	53.9	53.7	50.7
	1990	51.2	61.3	56.0	58.4	56.6
Casual	1975	31.9	30.6	32.7	35.1	33.0
	1978	38.5	31.6	29.2	27.6	31.2
	1981	25.9	25.4	25.9	29.2	27.2
	1984	23.4	27.4	25.1	25.9	25.4
	1987	23.5	24.3	23.2	23.7	23.6
	1990	24.7	20.1	22.6	22.9	22.4
Regular	1975	19.5	21.7	20.7	21.6	20.9
	1978	20.5	20.0	22.3	22.0	21.3
	1981	20.7	19.2	22.2	22.4	21.5
	1984	22.6	20.4	20.0	20.8	21.0
	1987	22.4	19.5	18.4	17.8	20.0
	1990	19.3	16.0	15.9	14.8	16.6
Heavy	1975	7.8	6.7	8.1	5.9	6.9
	1978	5.3	4.8	6.6	7.1	6.2
	1981	6.7	5.7	6.2	5.7	6.0
	1984	7.9	4.5	5.5	5.7	6.0
	1987	6.8	5.1	4.6	4.9	5.5
	1990	4.8	4.7	5.3	3.7	4.3

Tables 10, 11 and 12 present data for student response to the question, "When you drink alcoholic beverages, how many drinks do you usually consume on any one occasion?" This was the third time the question was asked in the youth studies. It was chosen to indicate alcohol consumption "norms" among age groups, sexes and school district sizes. The norms are reported as follows:

Abstain: I do not drink
Light: Less than one drink
Moderate: 1 or 2 drinks
Heavy: 3 or 4 drinks
Very Heavy: 5 or 6 drinks or more than 6 drinks

Table 10
Percentages of Grade-Level Samples
Reporting Alcohol Consumed Per Drinking Occasion in 1990

	Total	6th Grade	8th Grade	10th Grade	12th Grade
Abstain	47	77	55	34	24
Light	13	14	20	11	7
Moderate	14	6	13	18	18
Heavy	11	1	6	16	20
Very Heavy	15	1	6	20	31

Table 11
Percentages of Student Samples
Reporting Alcohol Consumption By District Size in 1990

	Urban	Semiurban	Semirural	Rural
Abstain (0)	41	53	47	48
Light (<1)	13	13	14	14
Moderate (1-2)	18	12	13	13
Heavy (3-4)	13	9	10	11
Very Heavy (5+6)	15	13	15	15

Table 12
Percent Male and Female Reporting
Alcohol Consumption Per Occasion in 1990

		Abstain	Light	Moderate	Heavy	Very Heavy
Total Sample	**Males**	46	14	13	8	18
	Females	48	13	15	13	11
12th Grade Sample	**Males**	25	6	14	14	41
	Females	22	9	26	26	23
10th Grade Sample	**Males**	33	13	18	12	24
	Females	34	9	19	20	18

A general trend toward more alcohol consumption per drinking occasion was apparent in grades six through 12 (Table 10). Abstinence and light drinking were the "norms" for sixth and eighth grades. Among 10th grade students, 18 percent were moderate drinkers, 16 percent were heavy drinkers and 20 percent were very heavy drinkers. Among 12th grade students, 18 percent were moderate drinkers, 20 percent were heavy drinkers and 31 percent were very heavy drinkers.

Comparisons of alcohol consumption patterns among various sizes of school districts are reported in Table 11. Urban students were least likely to be represented as abstainers (41 percent) than were semiurban (53 percent), rural (48 percent), and semirural (47 percent) students. Urban students were most likely to be represented as moderate and heavy drinkers (31 percent) than were semiurban (21 percent), semirural (23 percent), and rural (24 percent) students. The very heavy drinking pattern was similar within each of the categories of school districts.

Male and female consumption norms are reported in Table 12. Male and female consumption norms appear to be very similar for abstinence, light and moderate consumption. Females more frequently report themselves to be heavy users than do males. By contrast, males were much more likely to report themselves to be very heavy consumers of alcohol than were females. Differences between male and female consumption patterns are most apparent for heavy and very heavy use among both 10th and 12th grade students.

Drinking norms were estimated by cross-tabulating the number of drinks consumed per occasion with the reported frequency of alcohol use. The data in Table 13 represent only the data for the sub-sample of students who reported themselves to be alcohol users.

Fifty-two percent of the alcohol user group reported use of alcohol about once per month. Of this sub-group, 32 percent reported consuming less than one drink per occasion and 35 percent reported consuming one or two drinks per occasion.

Thirty-eight percent of the alcohol user group reported that they used alcohol about once per week. Of this sub-group, 31 percent reported consuming three or four drinks per occasion and 44 percent reported consuming more than five drinks per occasion.

A small minority of alcohol users (10 percent) reported using alcohol two or more times per week. Of this sub-group, 14 percent reported consuming three to four drinks per occasion and 79 percent reported consuming five or more drinks per occasion.

Table 13
Drinks Consumed Per Occasion Among Alcohol User Groups

Frequency of Use	Drinks Per Occasion: Less Than 1 Drink	1 or 2 Drinks	3 or 4 Drinks	5 or 6 Drinks	More Than 6 Drinks	Total Group
Once per month	32	35	20	7	7	52%
Once per week	6	19	31	20	24	38%
2 or more per week	1	6	14	25	54	10%
Total User Group	19	26	23	14	18	100%

Table 14
Percent of Grade Level Samples Reporting Problems Related to Alcohol Use

	6th Grade	8th Grade	10th Grade	12th Grade
Don't use alcohol	85	64	40	28
Often think/talk about drinking	23	27	22	18
Often can't remember what happened while/after drinking	6	11	16	14
Often drink to change my feelings, solve problems/escape painful experiences	2	10	12	14
Often feel guilty/ashamed about things done while drunk	5	6	11	12
Often can't have fun or get through social situations without drinking	4	6	5	6
Have had accidents, fights, trouble with police, problems due to alcohol use	2	5	6	7
Use is interfering with school/work/ family relationships	2	3	2	3
None of above applies	56	34	27	25

Among all reported alcohol users, 26 percent reported consuming one or two drinks, 23 percent reported consuming three or four drinks, and 32 percent reported consuming five or more drinks per occasion.

Student problem drinking was estimated through a new question "Read through the following statements and check any statement(s) that honestly describes your personal experience with alcohol." Student responses to the questionnaire are reported in Table 14.

Of the 15 percent of sixth grade alcohol users, 23 percent reported that they often think and talk about drinking. This response was also chosen by 27 percent of eighth grade, 22 percent of tenth grade, and 18 percent of twelfth grade alcohol users. Several problems increased in frequency of choice with each increase in grade level. The greatest increase in frequency of choice was for the response "I often use alcohol to change my feelings, solve problems, or escape painful experiences."

The following statements summarize some of the more relevant findings concerning alcohol use and nonuse:

- Very few (8 percent) 12th grade students had not tried alcohol.
- Most Iowa youth (60-70 percent) had tried alcohol by age 14.
- Approximately 85 percent of 10th and 12th grade students had tried alcohol by age 16.
- More students reported themselves to be nonusers of alcohol in 1990 than did students in prior studies.
- Casual, regular and heavy use of alcohol among student groups declined in 1990.
- Alcohol use in 1990 appeared to be most prevalent in urban schools and least prevalent in semiurban schools.
- The frequency of alcohol use among male and female students were similar for casual and regular use. Males were more likely to be heavy alcohol users than were females.
- "Heavy" and "very heavy" consumption norms became more frequent with each increase in grade level. Students reporting the consumption of three or more drinks per occasion rose from 2 percent of sixth graders to 51 percent of 12th graders.
- Male students were more likely to report very heavy alcohol consumption (five or more drinks per occasion) than were females.

2. Tobacco Use and Nonuse

Data on tobacco use were collected only in the 1981, 1984, 1987 and 1990 studies. The age at which students first tried tobacco is reported in Table 15. Students responded to the question, "How old were you when you first tried tobacco?"

The data in Table 15 indicate that many students have tried tobacco. The number of students who tried tobacco appeared to increase with age, with approximately 40 percent of the students trying tobacco by age 14. Comparisons of 1981, 1984, 1987 and 1990 data indicated that significantly fewer students at each grade level had tried tobacco in 1990 (Table 16).

The data in Table 16 reflect changes in the number of students who had never tried tobacco. A comparison of the 1981, 1984, 1987 and 1990 studies portrays a trend at each grade level toward fewer users of tobacco. The data suggest that students in 1990 were much more unlikely to have ever tried tobacco that were other students in 1981, 1984 or 1987.

The frequency of tobacco use is reported in Table 17. These data reflect student responses to the question, "During an average week, how often do you usually smoke tobacco. . . cigarettes, pipes, cigars?"

There was a problem of increased tobacco use with each higher grade level. The largest increase in the use of tobacco seemed to occur between sixth and eighth grades. The greatest increase in casual use of tobacco occurred between sixth and 8th grade. The largest increase in regular tobacco use was apparently between sixth and 8th grade. Heavy tobacco use seemed to increase most appreciatively between eighth and 10th grade.

Table 15
Age of Onset for Tobacco Use

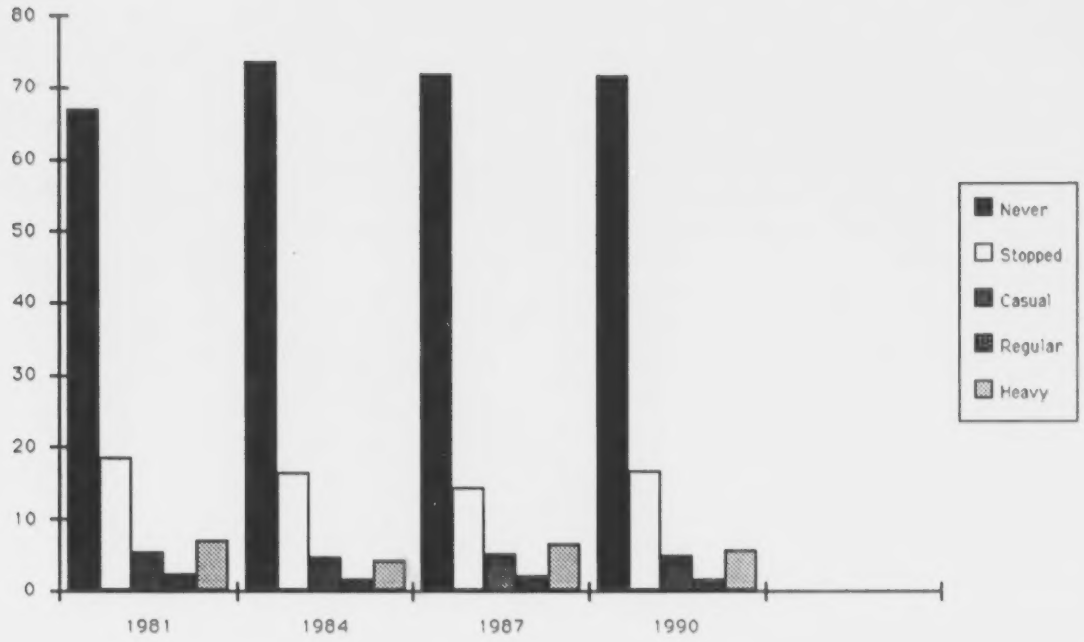
	Never Tried	Tried Tobacco by Age 12	Tried Tobacco by Age 14	Tried Tobacco by Age 16	Tried Tobacco by Age 18
Grade 6	88	12			
Grade 8	67	27	33		
Grade 10	47	30	45	53	
Grade 12	36	29	44	58	64

Table 16
Percentages of Grade Level Samples
Never Using Tobacco

	6th Grade	8th Grade	10th Grade	12th Grade
1990	88	67	47	36
1987	82	59	43	34
1984	75	58	42	32
1981	74	53	37	28

Tobacco Use Among Total Samples
1981-1990

Fig. B



Comparisons of 1981, 1984, 1987 and 1990 data indicated an overall decrease in tobacco use in 1990. The decrease in tobacco use appears to be related to an increase in the number of students who reported that they had tried tobacco and had stopped smoking.

Comparisons between male and female patterns of tobacco use are reported in Table 18. The data suggest that males and females are very similar in their tobacco use patterns.

An examination of the data in Table 19 reveals that tobacco use was most frequent among urban students and least frequent among rural students. The response, "I have smoked, but I don't smoke now" was most frequently reported for urban students and least often reported by rural students. Heavy use of tobacco appeared to have increased among semirural and rural students in 1990.

Table 17
Percentages of Grade Level Samples Reporting Tobacco Use in 1981-1990

		Total	6th Grade	8th Grade	10th Grade	12th Grade
Never	1981	67.0	84.0	68.4	61.2	57.3
	1984	73.5	86.6	76.9	67.5	64.8
	1987	71.8	88.8	75.1	63.5	60.5
	1990	71.6	89.0	72.2	63.5	61.5
Stopped	1981	18.5	12.3	21.5	20.5	19.2
	1984	16.3	10.2	16.7	18.8	18.4
	1987	14.3	8.4	14.8	17.6	16.5
	1990	16.5	8.8	18.1	20.7	17.8
Casual	1981	5.3	2.7	5.0	7.2	6.1
	1984	4.6	2.4	3.9	6.2	5.8
	1987	5.1	1.7	5.4	5.8	7.3
	1990	4.8	1.4	5.3	6.1	6.5
Regular	1981	2.3	.6	1.7	2.8	3.7
	1984	1.5	.5	1.1	1.9	2.4
	1987	2.1	.5	1.5	2.9	3.5
	1990	1.6	.2	1.7	2.0	2.3
Heavy	1981	6.9	.5	3.4	8.4	13.7
	1984	4.1	.4	1.4	5.5	8.7
	1987	6.6	.4	3.1	10.3	12.2
	1990	5.5	.4	2.5	7.8	11.8

Table 18
Percent Male and Female Reporting Tobacco Use

		Never	Stopped	Casual	Regular	Heavy
Male	1981	67.4	19.6	4.3	2.3	6.4
	1984	73.4	16.6	4.6	1.6	3.8
	1987	75.6	13.7	4.5	1.6	4.6
	1990	71.0	16.8	4.5	1.8	5.8
Female	1981	66.6	17.5	6.3	2.2	7.4
	1984	73.5	15.9	4.7	1.5	4.4
	1987	75.1	13.2	4.7	1.8	5.1
	1990	72.1	16.0	5.1	1.3	5.2

Table 19
Percentages of Student Samples Reporting Tobacco Use by District Size in 1981-1990

		Urban	Semiurban	Semirural	Rural	Total
Never	1981	69.9	71.9	67.8	67.3	68.7
	1984	70.2	74.1	73.3	74.9	73.3
	1987	64.6	72.0	71.3	79.5	71.8
	1990	66.0	73.1	73.6	75.6	71.6
Stopped	1981	16.1	16.7	18.6	18.4	17.7
	1984	16.6	15.9	16.8	16.0	16.3
	1987	16.0	14.2	12.9	12.9	14.3
	1990	20.2	15.8	15.5	13.8	16.4
Casual	1981	5.6	3.6	4.4	5.9	5.1
	1984	5.2	4.0	4.4	4.6	4.6
	1987	5.6	5.6	4.3	3.9	5.1
	1990	6.1	4.5	4.5	4.2	4.8
Regular	1981	1.9	1.9	2.5	2.1	2.1
	1984	2.0	2.2	1.2	1.2	1.6
	1987	2.7	2.1	1.8	1.0	2.1
	1990	2.1	.9	1.2	1.9	1.5
Heavy	1981	6.6	5.9	6.8	6.5	6.4
	1984	6.1	3.8	4.3	3.2	4.2
	1987	10.6	6.1	3.6	2.7	6.6
	1990	5.6	5.5	4.9	4.3	5.5

The use of "smokeless tobacco" among Iowa youth is reported in Table 20. The question was phrased, "Do you use 'smokeless tobacco' (snuff, chewing tobacco, plug)?"

The data indicate that fewer students were using "smokeless tobacco" in 1990 than were using in 1984 and 1987. The range for smokeless tobacco use was 0 percent in 6th grade to 8 percent in 12th grade.

The data in Table 21 indicate very few differences in the frequency of smokeless tobacco use between urban, semiurban, semirural and rural students.

The data for tobacco use and nonuse in 1981, 1984, 1987 and 1990 suggest the following observations:

- Approximately 40 percent of the youth have tried tobacco, with the greatest initial use occurring between ages 12 and 14.
- Approximately 17 percent of Iowa youth were tobacco smokers; the percentages ranged from 2 percent of sixth graders to 21 percent of 12th graders.
- The greatest increase in regular use of tobacco occurred between sixth and eighth grade.
- The greatest increase in heavy use of tobacco occurred between eighth and 10th grade.
- Comparisons of 1981, 1984, 1987 and 1990 data indicate an overall decrease in regular and heavy use of tobacco in 1990.
- Very few differences in the patterns of tobacco use existed between male and female students.
- Regular and heavy tobacco use was most frequently observed among urban students.
- The use of "smokeless tobacco" is relatively uncommon (0-8 percent) among Iowa youth.

Table 20
Percentages of Grade Level Samples
Reporting "Smokeless Tobacco" Use in 1984, 1987 and 1990

		6th Grade	8th Grade	10th Grade	12th Grade
Never	1990	94	87	81	79
	1987	91	82	76	79
	1984	84	77	72	73
Stopped	1990	5	10	12	13
	1987	8	13	16	14
	1984	12	15	17	16
1-6/week	1990	0	2	4	4
	1987	1	3	4	3
	1984	3	6	6	5
Daily	1990	0	1	3	4
	1987	0	1	3	4
	1984	1	2	5	7

Table 21
Percentages of Student Samples Reporting
Smokeless Tobacco Use by District Size in 1990

	Urban	Semiurban	Semirural	Rural	Total
Never	87	86	84	84	85
Stopped	9	9	11	10	10
1-6/week	3	2	3	3	3
Daily	1	2	2	2	2

3. Marijuana Use and Nonuse

Students were asked to respond to the question, "How old were you when you first tried marijuana (pot, grass, hash)?" Their responses to this question are reported in Table 22.

The data in Table 22 indicate that most youth who have tried marijuana did so between ages 13 and 16. Approximately 28 percent of 12th grade students in 1990 had tried marijuana by age 18. This compares with 40 percent of 12th grade students in 1987, 35 percent of 12th grade students in 1984, and 44 percent of 12th grade students in both 1981 and 1978.

The data in Table 23 indicate a consistent pattern of increased numbers of students who had never tried marijuana between 1978 and 1990. When the five study years (1978, 1981, 1984, 1987 and 1990) are compared, an overall downward trend in use of marijuana is apparent. The exception to the trend appeared to be an increase in the number of 8th grade, 10th grade and 12th grade users in 1987.

Frequency of marijuana use by grade level samples is reported in Table 24. Students responded to the question, "During an average month, how often do you usually use any amount of marijuana (pot, grass, hash)?"

Table 22
Age of Onset for Marijuana Use by Grade Levels

	Never Tried Marijuana	Tried Marijuana by Age 12	Tried Marijuana by Age 14	Tried Marijuana Age 16	Tried Marijuana by Age 18
Grade 6	98	2			
Grade 8	93	5	7		
Grade 10	80	4	14	20	
Grade 12	72	4	12	24	28

Table 23
Percentages of Grade Level Samples Never Using Marijuana

	6th Grade	8th Grade	10th Grade	12th Grade
1990	98	93	80	72
1987	96	89	71	60
1984	97	91	79	65
1981	96	86	71	56
1978	75	65	66	56

Table 24
Percentages of Grade Level Samples
Reporting Marijuana Use in 1975-1990

		Total	6th Grade	8th Grade	10th Grade	12th Grade
Nonuse	1975	83.5	98.2	87.2	77.5	66.3
	1978	84.5	88.3	89.6	78.1	72.7
	1981	89.1	98.4	93.3	84.9	77.8
	1984	92.0	98.8	96.2	89.1	84.9
	1987	90.7	98.9	94.6	87.0	82.7
	1990	93.9	98.7	97.0	90.7	89.2
Casual	1975	7.4	1.6	6.7	11.0	13.0
	1978	4.6	.6	3.3	5.4	8.4
	1981	4.0	.7	2.7	5.8	7.7
	1984	3.5	.4	1.8	4.9	6.5
	1987	4.5	.5	2.7	5.7	8.9
	1990	2.9	.3	1.9	4.4	5.3
Regular	1975	3.9	.1	3.5	5.8	7.4
	1978	4.7	0.0	4.6	6.5	6.7
	1981	2.8	.2	1.8	4.9	4.9
	1984	2.5	.4	1.3	3.4	4.5
	1987	2.1	.2	1.0	3.8	3.3
	1990	1.5	.4	.7	2.4	2.3
Heavy	1975	5.1	.1	2.6	6.7	13.4
	1978	6.2	.1	2.6	10.1	12.0
	1981	4.0	.6	2.2	4.4	9.7
	1984	2.0	.4	.7	2.6	4.1
	1987	2.6	.2	1.5	3.5	4.9
	1990	1.5	.2	.3	2.5	3.2

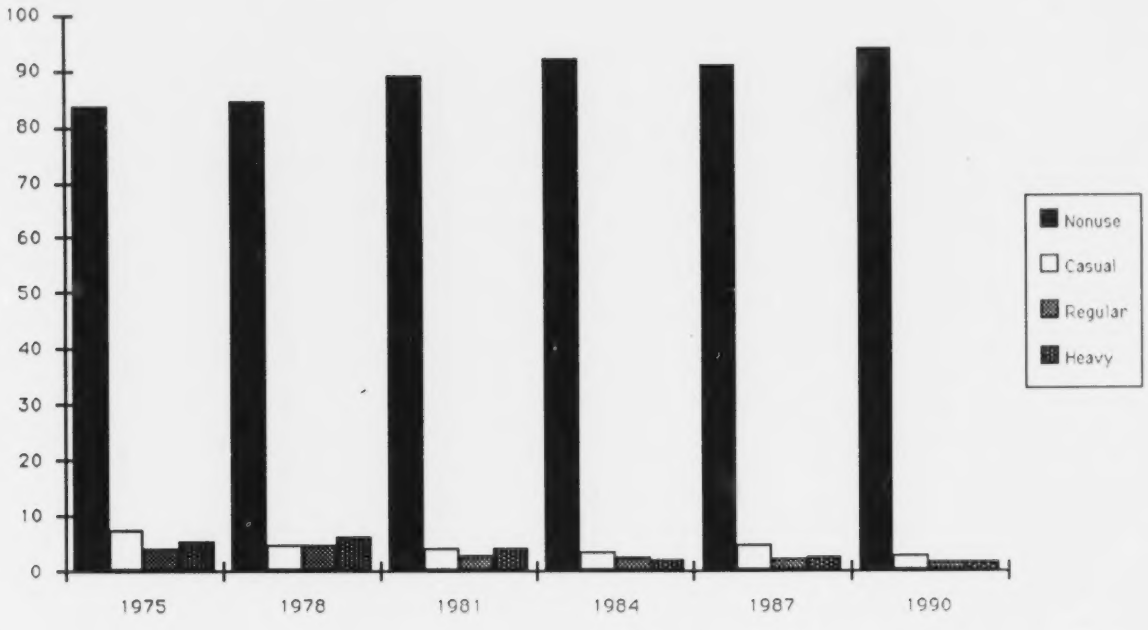
An overview of Table 24 indicates that 1 percent to 11 percent of the 1990 sample were currently using marijuana. Marijuana use increased with each increase in grade level. The largest increase in the number of casual, regular and heavy users seemed to occur between eighth and 10th grades.

A comparison of data from 1975, 1978, 1981, 1984, 1987 and 1990 disclose a downward trend in the use of marijuana across all grade levels. The data from 1987, however, indicate a slight increase in the casual and heavy use of marijuana across most grade levels.

Figure C depicts the general trends in marijuana use among total samples in the six study years. The graph portrays a continuing decline in the number of marijuana users between 1975 and 1984 with a continuation of the downward trend in 1990.

Marijuana Use Among Total Samples
1975 - 1990

Fig. C



Marijuana use patterns for male and female students are presented in Table 25. The data indicate few differences in casual and regular use patterns between male and female students. Male students were slightly more often represented in the heavy use category. A decline in the casual, regular and heavy use of marijuana by both sexes is indicated by comparing data for the six study years.

Differences in marijuana use patterns by school district categories are exhibited in Table 26.

The 1990 data denote some differences in marijuana use among the four categories of school districts. The overall pattern was that marijuana use became less frequent with each decrease in the size of school districts/communities. The highest rates of casual, regular and heavy use of marijuana were reported for urban students and the lowest rates of use were reported for rural students.

When the data from 1975, 1978, 1981, 1984, 1987 and 1990 are compared, all size categories of school district exhibited a trend toward an increase in the nonuse of marijuana. The trend toward less casual, regular and heavy use of marijuana also appeared to be present across the four size categories of school districts.

Table 25
Percent Male and Female Reporting Marijuana Use in 1975-1990

		Never Used	Ever Used	Casual	Regular	Heavy
Male	1975	80.8	*	9.0	4.3	6.0
	1978	84.0	24.3	4.8	4.3	7.0
	1981	78.7	21.3	4.1	3.5	5.7
	1984	85.0	15.0	3.6	2.6	2.7
	1987	87.1	12.9	3.8	1.4	2.4
	1990	86.4	13.6	2.9	1.8	2.4
Female	1975	86.3	*	5.9	3.5	4.3
	1978	84.9	20.3	4.4	5.1	5.6
	1981	81.1	18.9	4.8	3.3	2.7
	1984	87.2	12.8	3.5	2.3	1.4
	1987	87.7	12.3	3.0	1.6	1.3
	1990	89.0	11.0	2.9	1.2	.9

*Unable to calculate due to wording of question in 1975

Table 26
Percentages of Student Samples Reporting Marijuana Use by District Size in 1975-1990

		Urban	Semiurban	Semirural	Rural	Total
Nonuse	1975	78.6	82.9	83.9	86.9	83.5
	1978	76.9	84.3	87.1	88.0	84.5
	1981	82.6	89.7	90.5	91.7	89.5
	1984	87.3	89.4	93.3	95.2	91.9
	1987	85.5	89.7	95.6	96.9	90.7
	1990	92.2	93.5	95.0	96.8	93.9
Casual	1975	9.8	6.7	6.3	6.7	7.4
	1978	5.4	5.9	4.1	3.8	4.6
	1981	5.8	3.5	4.2	3.2	3.9
	1984	4.8	4.5	3.0	2.5	3.5
	1987	6.6	4.9	2.8	1.7	4.5
	1990	3.9	3.8	1.9	1.8	2.9
Regular	1975	5.8	3.7	3.3	3.0	3.9
	1978	8.3	2.8	4.2	3.5	4.7
	1981	4.9	2.4	2.2	2.5	2.8
	1984	3.5	4.1	2.0	1.3	2.5
	1987	3.3	2.5	.8	.5	2.1
	1990	1.6	1.5	1.6	.7	1.5
Heavy	1975	5.7	6.6	6.5	3.3	5.1
	1978	9.5	6.9	4.6	4.7	6.2
	1981	6.9	4.4	3.2	2.8	3.8
	1984	4.4	2.0	1.7	1.0	2.1
	1987	4.2	3.0	.9	.9	2.6
	1990	2.4	1.3	1.3	.4	1.5

The relevant findings concerning marijuana use and nonuse include:

- A majority of Iowa students (72-98 percent) had not tried marijuana.
- The greatest increase in the number of casual, regular and heavy use of marijuana seemed to occur between eighth and 10th grades.
- A downward trend in marijuana use appeared to have continued through 1990.
- Female and male students used marijuana at nearly the same frequency. Males were slightly more likely to be heavy users.
- Casual, regular and heavy use of marijuana was more common among urban youth.
- Marijuana use appeared to be less frequent with each decrease in the size of school districts/ communities.
- A decline in the casual, regular and heavy use of marijuana was generally observed for urban, semiurban, rural and semirural districts.

4. Other Drug Use and Nonuse

The age of onset for other drug use was assessed by asking students, "How old were you when you *first* tried drugs ('downers,' 'uppers' and/or 'hallucinogens' like LSD)?" Responses to this question are revealed in Table 27. Few students (2-14 percent) have tried other drugs. Evidently the 13 to 16 age range was the period of greatest experimentation with other drugs.

The data in Table 28 indicate that approximately 14 percent of 12th grade students in 1990 had tried other drugs as compared to 19 percent in 1987, 19 percent in 1984, 21 percent in 1981 and 18 percent in 1978. Very few 6th grade or eighth grade students had tried other drugs in any of the four study years.

Another treatment of the 1990 data reveals that 21 percent of urban youth, 14 percent of semiurban youth, 11 percent of semirural youth and 8 percent of rural youth had tried other drugs by age 18. This indicates that the larger the school district, the more likely that students would try other drugs and begin their use at an earlier age.

Table 27
Age of Onset for Other Drug Use by Grade Levels

	Never Tried Other Drugs	Tried Drugs by Age 12	Tried Drugs by Age 14	Tried Drugs by Age 16	Tried Drugs by Age 18
Grade 6	98	2			
Grade 8	95	2	5		
Grade 10	89	1	6	11	
Grade 12	86	1	4	10	14

Table 28
Percent of Grade Level Sample Never Using Other Drugs

	6th Grade	8th Grade	10th Grade	12th Grade
1990	98	95	89	86
1987	98	94	85	81
1984	98	96	88	81
1981	98	94	83	79

Table 29
Percentages of Grade Level Samples
Reporting Other Drug Use in 1975 - 1990

		Total	6th Grade	8th Grade	10th Grade	12th Grade
Nonuse	1975	92.3	98.5	95.6	89.1	83.1
	1978	94.2	98.9	97.7	90.2	90.1
	1981	94.3	99.4	96.9	92.4	87.2
	1984	95.4	98.6	97.8	93.9	91.6
	1987	95.5	99.4	96.6	93.6	92.7
	1990	96.7	99.0	98.2	94.8	94.9
Casual	1975	5.1	1.0	3.7	7.1	10.0
	1978	3.1	.9	1.2	4.6	5.9
	1981	3.2	.5	1.8	4.8	6.8
	1984	2.4	.6	1.2	2.8	4.8
	1987	2.4	.2	1.7	2.8	4.6
	1990	2.1	.4	1.2	3.4	3.1
Regular	1975	2.0	.4	.5	2.9	4.9
	1978	2.0	.1	.9	3.7	3.5
	1981	1.7	.2	1.1	1.8	3.9
	1984	1.2	.3	.6	1.9	2.0
	1987	1.1	.2	.8	2.0	1.4
	1990	.7	.2	.4	.8	1.2
Heavy	1975	.6	.1	.2	.6	1.9
	1978	.6	0.0	.1	1.5	.5
	1981	.8	0.0	.3	1.0	2.1
	1984	1.0	.5	.4	1.4	1.7
	1987	.8	.1	.5	1.6	1.1
	1990	.5	.1	.2	.9	.5

Frequency of other drug use was represented by student responses to the question, "During an average month, how often do you usually use any amount of drugs such as 'downers,' 'uppers' or 'hallucinogens'? " Table 29 presents the findings for this question. The data indicate that very few students (approximately 3 percent) use other drugs. The frequency of other drug use increased with grade level. The greatest increase in casual, regular and heavy use apparently occurred between eighth and 10th grade.

Comparisons of other drug use patterns between study years are difficult due to the small number of students represented in each use category. It appears that overall use of other drugs was at its lowest level in the 1990 sample.

Figure C illustrates the trends in other drug use during 1975, 1978, 1981, 1984, 1987 and 1990. The graph clearly portrays the small number of students who reported themselves to be users of other drugs.

Table 30 implies that very few differences in drug use patterns for female and male students existed in 1990. Male and female use patterns for other drugs were almost identical.

Drug Use Among Total Samples
1975 - 1990

Fig. D

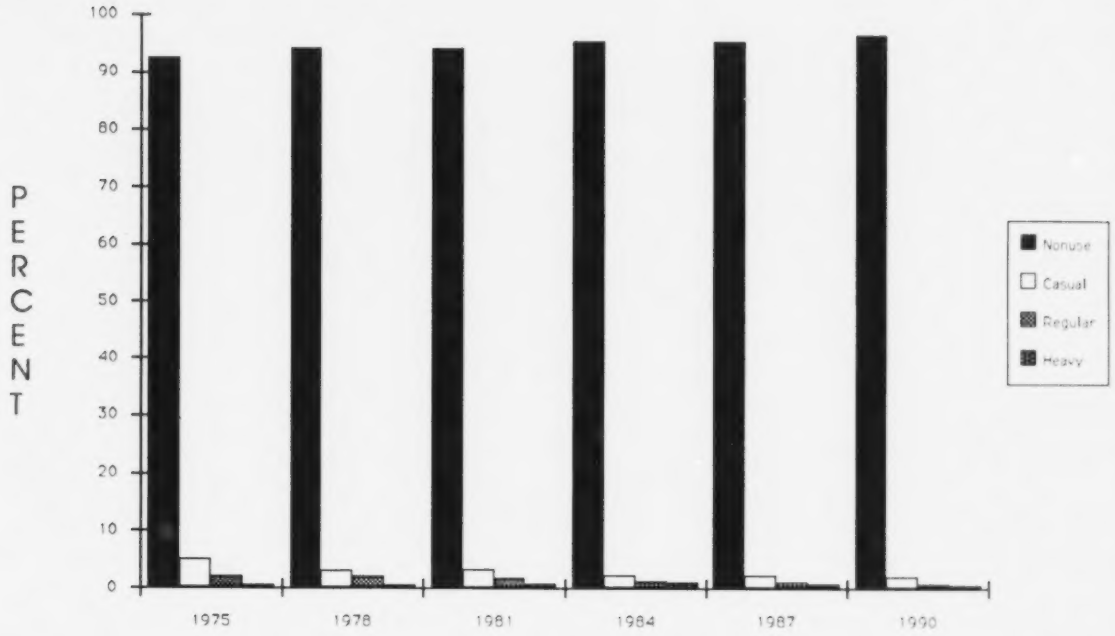


Table 30
Percent Male and Female Reporting Other Drug Use in 1975-1990

		Never Used	Ever Used	Casual	Regular	Heavy
Male	1975	92.1	*	5.8	1.6	.5
	1978	94.4	10.3	3.3	1.9	.5
	1981	88.3	11.7	3.8	2.0	1.0
	1984	91.0	9.0	2.5	1.4	1.0
	1987	92.1	7.9	2.0	.9	.9
	1990	93.1	6.9	1.8	.7	.8
Female	1975	92.5	*	4.4	2.3	.8
	1978	94.1	9.4	2.9	2.2	.8
	1981	88.6	11.4	3.6	1.5	1.0
	1984	90.7	9.3	2.3	1.1	1.0
	1987	92.1	7.9	1.9	1.0	.5
	1990	92.8	7.2	2.3	.6	.2

*Unable to calculate due to wording of question in 1975

Table 31
Percentages of Student Samples Reporting Drug Use by District Size in 1975-1990

		Urban	Semiurban	Semirural	Rural	Total Sample
Nonuse	1975	91.7	91.2	92.0	93.4	92.3
	1978	94.2	94.1	95.5	93.7	94.2
	1981	93.2	94.0	94.9	94.6	94.2
	1984	92.6	95.0	95.7	96.8	95.3
	1987	93.6	95.1	97.3	97.7	95.5
	1990	95.6	97.0	96.9	98.5	96.7
Casual	1975	6.0	5.9	5.0	4.1	5.1
	1978	3.3	2.5	2.8	3.3	3.1
	1981	4.5	3.5	3.2	2.7	3.2
	1984	3.6	2.6	2.6	1.5	2.4
	1987	3.1	2.6	1.9	1.2	2.4
	1990	3.0	2.2	1.6	.9	2.1
Regular	1975	1.6	2.4	2.2	1.8	2.0
	1978	1.6	2.5	1.1	2.6	2.0
	1981	1.6	2.1	1.3	1.7	1.7
	1984	2.1	1.4	1.0	.9	1.3
	1987	1.5	1.2	.8	.7	1.1
	1990	.7	.5	.8	.3	.7
Heavy	1975	.7	.6	.9	.6	.6
	1978	.8	.8	.6	.5	.6
	1981	.6	.6	.7	1.2	.9
	1984	1.6	1.1	.8	.7	1.0
	1987	1.2	1.1	.1	.5	.8
	1990	.6	.2	.5	.3	.5

Table 31 reveals a pattern of very little other drug use among 1990 students in the four size categories of school districts. Only casual use of other drugs seemed to reflect a pattern of highest use in urban districts and least use in rural districts.

The data regarding other drug use and nonuse suggest the following summary:

- Very few (2-14 percent) youth had tried other drugs and very few (3 percent) continued to use them.
- Most experimentation with other drugs appeared to occur between age 13 and 16.
- The largest increase in casual, regular and heavy use of other drugs occurred between eighth and 10th grade.
- Patterns of other drug use were nearly identical for female and male students.
- Less than 1 percent of each student sample fit the heavy use pattern for other drugs.

5. Cocaine Use and Nonuse

A question on the short youth survey asked students, "During an average month, how often do you usually use any amount of cocaine (coke, crack)?"

The findings for this question are reported in Table 32.

The data indicate that 1.2 percent of sixth grade students had used cocaine and 6 percent of 12th grade had used cocaine. Less than 1 percent of any grade level were casual, regular or heavy cocaine users.

Table 32
Percentage of Grade Level Samples
Reporting Cocaine Use in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Never	98.8	98.0	96.2	94.0
Stopped	.2	.8	1.7	3.2
Casual	.1	.3	.7	.9
Regular	.1	.2	.3	.4
Heavy	.2	.3	.6	.6

6. Steroid Use and Nonuse

Another question was added to the 1990 survey to obtain information about the use of anabolic steroids by Iowa students. Students were asked "Do you use anabolic steroids ('roids' or Dianabol)?"

The data in Table 33 indicate that very few students had used anabolic steroids. Very few students at any grade level reported themselves to be anabolic steroid users.

Table 33
Percentage of Grade Level Samples
Reporting Anabolic Steroid Use in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Never	98.5	98.4	97.6	98.2
Stopped	.5	1.1	1.4	.9
Occasionally 1-3 times/ each month	.2	.1	.2	.5
Frequently 1-3 times/ each week	.1	.1	.3	.2
Daily	.4	.2	.5	.1

7. Polysubstance Use and Nonuse

Data on polysubstance use provide a perspective on the number of students who use two or more substances concurrently. This section of the report discusses the percentages of grade level samples and total samples which reported nonuse (never and stopped) and use (casual, regular and heavy) of alcohol, marijuana and other drugs. The computer sorted data and counted frequencies according to the following scheme:

Nonuse of any substance (alcohol, marijuana or other drugs)
Alcohol use only (nonuse of marijuana and other drugs)
Marijuana use only (nonuse of alcohol and other drugs)
Drugs only (nonuse of alcohol and other drugs)
Alcohol and marijuana (nonuse of other drugs)
Alcohol and other drug use (nonuse of marijuana)
Marijuana and other drug use (nonuse of alcohol)
Use of all substances

There were eight possible categories for the polysubstance analyses. Very few students fit the "drugs only" and "marijuana and other drugs" categories, so these data are omitted from the tables.

Table 34 indicates that among 12th grade students, 29 percent did not use any of the substances; 59 percent used alcohol only; 6 percent used alcohol and marijuana only, and 4 percent used all substances.

Table 34 describes polysubstance use by grade levels in 1981, 1984, 1987 and 1990. The number of students in 1990 who reported nonuse of any substance decreased from 88 percent in sixth grade to 29 percent in 12th grade. "Alcohol only" accounted for the largest group of substance users in each grade level. Very few students at any grade level fit the categories of "marijuana use only" or "drug use only". The most frequently reported substance use combinations were "alcohol and marijuana" followed by "use of all substances". Slightly more than 2 percent of all students in the 1990 study reported using all substances.

Comparisons of 1981, 1984, 1987 and 1990 data reveal an increase in the number of students who were nonusers of any substance. The 1990 data demonstrate significant decreases in the "alcohol only" category at the sixth and 8th grade samples. Decreases in the "alcohol and marijuana", "alcohol and other drugs", and "use of all substances" categories were observed for eighth grade, tenth grade and 12th grade students.

Polysubstance use in the total sample is presented for 1975, 1978, 1981, 1984, 1987 and 1990 in Table 35. The 1990 data show an increase in the number of students who were nonusers of any substance. The 1990 data reflect a continuation of a downward trend in the "use of all substances".

Table 36 contrasts polysubstance use patterns in the four categories of school districts. "Nonuse of any substance" appeared to be most frequent in semiurban and rural districts in 1990. "Alcohol only" seemed to occur most frequently in urban districts and least frequently in semiurban districts. "Use of all substances" was least frequently reported by rural students. The combined use of "alcohol and marijuana" appeared to be most frequent in urban districts and least frequent in rural districts.

Comparisons of 1981, 1984, 1987 and 1990 data depict a decrease in the "use of all substances" among students in urban and semiurban districts. There was a continued decrease in "alcohol and marijuana" use among urban, semiurban, semirural and rural districts. A continued decline in the number of "alcohol only" students was apparent in semiurban, semirural and rural districts.

Table 34
Polysubstance Use in 1981-1990 by Grade Level

		Nonuse of Any	Alcohol Only	Marijuana Only	Alcohol and Marijuana	Alcohol and Other Drugs	Use of All Substances
6th Grade	1981	73.0	25.0	.3	1.1	.3	.1
	1984	80.2	17.9	0	.3	.3	.1
	1987	83.5	15.4	0	.6	.2	.3
	1990	87.8	10.6	.1	.4	.2	.5
8th Grade	1981	52.6	40.5	.5	3.3	.6	2.6
	1984	58.0	37.7	.3	1.8	.4	1.6
	1987	60.3	33.4	.3	2.9	1.1	1.8
	1990	65.6	30.6	.2	1.6	.5	1.1
10th Grade	1981	32.4	50.0	.3	8.9	1.3	6.9
	1984	34.6	53.0	.6	5.7	1.5	4.3
	1987	37.3	48.4	.4	7.6	1.3	4.8
	1990	40.9	48.7	.3	4.9	.9	3.9
12th Grade	1981	20.5	55.9	.4	11.0	1.4	10.4
	1984	22.2	60.9	.2	8.3	1.6	6.3
	1987	22.8	58.1	.3	11.7	2.0	4.9
	1990	29.5	58.8	.2	6.3	.7	4.2

Table 35
Polysubstance Use Among Total Samples During 1975-1990

	Nonuse of Any	Alcohol Only	Marijuana Only	Alcohol and Marijuana	Alcohol and Other Drugs	Use of All Substances
1990	56.2	37.0	.2	3.3	.6	2.4
1987	50.5	39.0	.3	5.8	1.0	3.0
1984	47.6	43.3	.3	4.2	1.0	3.3
1981	44.9	43.7	.3	5.4	.9	4.7
1978	31.1	44.0	.9	14.9	.5	8.5
1975	39.1	43.7		9.3	.7	6.7

Table 36
Polysubstance Use Within
Various Sized School Districts in 1981-1990

		Nonuse of Any	Alcohol Only	Marijuana Only	Alcohol and Marijuana	Alcohol and Other Drugs	Use of All Substances
Urban	1981	42.6	37.6	1.0	10.8	1.1	6.8
	1984	46.0	40.7	.7	5.7	1.1	5.4
	1987	46.7	38.3	.5	8.8	1.0	4.5
	1990	50.2	40.7	.2	4.5	1.1	2.6
Semi-urban	1981	43.2	41.7	.4	7.1	1.4	6.0
	1984	47.0	41.3	.6	6.1	.9	3.6
	1987	50.9	37.4	.2	6.6	1.3	3.5
	1990	61.2	31.9	.1	3.8	.4	2.5
Semi-rural	1981	44.0	45.7	.1	5.1	.7	4.5
	1984	49.5	42.7	.2	3.5	1.3	2.8
	1987	53.7	40.6	.1	2.9	1.2	1.2
	1990	55.7	38.7	.1	2.2	.5	2.3
Rural	1981	43.5	47.7	.1	3.6	.8	4.2
	1984	47.9	46.3	.0	2.6	.8	2.1
	1987	53.5	42.2	.1	1.9	1.2	1.0
	1990	57.9	38.3	.3	1.7	.3	1.1

Table 37
Polysubstance Use By Sex

	Nonuse	Alcohol Only	Alcohol and Marijuana	Alcohol and Other Drugs	All Substances	Marijuana Only
Male	56.0	36.2	4.1	.6	2.5	.3
Female	56.4	37.7	2.5	.6	2.4	.1

Male and female polysubstance behaviors are reported in Table 37. The data describes very few differences between male and female students in their polysubstance behaviors.

Table 38
Percent of Grade Level Samples Reporting
Personal Problems Related to Substance Use in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Never Use	86	70	47	32
No Problem	12	26	44	57
Some Problems	1	3	7	9
Frequent Problems	0	1	1	1

A question in the short form youth survey asked students, "Is your alcohol or other drug use causing you problems at home, at school, on the job, with your friends, and/or the police?" The date in Table 38 indicate that 1 percent of 6th grade, 4 percent of eighth grade, 8 percent of 10th grade and 10 percent of twelfth grade students reported some or frequent problems related to their substance use.

8. Summary of Findings for Substance Use and Nonuse

Detailed summaries of the use and nonuse of specific substances were presented earlier. Some very broad observations are reported here:

- The frequency of substance use appeared to be a function of age, availability and opportunity.
- Substance use appeared to increase in frequency with each increase in grade level.
- The substance use patterns of female and male students were very similar.
- Data in 1990 seemed to verify a trend toward less student substance use following a peak substance use year of 1978.
- The age of onset data for 12th grade students indicates that a ranking of substances by "ever tried" is plausible. For 12th grade students 92 percent had tried alcohol, 64 percent had tried tobacco, 28 percent had tried marijuana, and 14 percent had tried other drugs.
- Data comparisons between different categories of school districts suggest that substance availability and user anonymity are important factors. For example, marijuana use, other drug use and polysubstance use were most frequent in urban districts and least frequent in rural districts. Findings regarding alcohol use did not describe a consistent pattern in comparisons of the four size categories of districts.
- "Heavy use" of substances involved a large number of Iowa youth in 1990.

Projections for 12th grade based on an enrolled population of 31,000 include:

2,914 heavy users of alcohol (9.4 percent norm)
3,658 heavy users of tobacco (11.8 percent norm)
992 heavy users of marijuana (3.2 percent norm)
155 heavy users of other drugs (0.5 percent norm)

Projections for 10th grade based on an enrolled population of 34,100 include:

1,841 heavy users of alcohol (5.4 percent norm)
2,660 heavy users of tobacco (7.8 percent norm)
853 heavy users of marijuana (2.5 percent norm)
307 heavy users of other drugs (0.9 percent norm)

Polysubstance use projections:

3,472 12th grade (11.2 percent norm)
3,308 10th grade (9.7 percent norm)

IV. External Influences on Substance Use and Nonuse Behaviors

Questions 52, 55-58 and 79-80 provide a broad perspective on external influence on youth substance use and nonuse. Student responses on these questions are presented first as background for the more specific findings concerning the influence of family, peers and schools on youth substance decisions.

Questions 55-58 asked students to identify the persons who had most influenced their decisions not to use substances. Students responded to the question, "Which person on the following list of people, has **most** influenced your decision to **not** use alcohol/tobacco/marijuana/other drugs?" Table 39 shows the percentages of the nonuser groups who matched a specific person with the nonuse of a specific substance.

Among nonusers of substances, parents were perceived to exert the most influence on substance decisions (52-55 percent). The second, third and fourth most important sources of influence appeared to be friends, a health teacher, and a school nurse or counselor. The least influential appeared to be clergy and substance abuse counselors.

The data does not suggest a specificity for "influencers." Parents were consistently perceived as the most important source of influence to not use alcohol, tobacco, marijuana and other drugs. Friends and a school nurse/counselor also were perceived to have a consistent and general influence regardless of substance.

The data from questions 55-58 were also clustered by grade levels. Comparison of sixth grade responses with 12th grade responses indicates that each increase in grade level was accompanied by declines in parent nonuse influence (from 55 percent to 45 percent), school counselor/teacher/nurse nonuse influence (from 15 percent to 3 percent), and police nonuse influence (from 8 percent to 2 percent). Peer influence to not use substances increased with each increase in grade level for alcohol (from 8 percent to 17 percent), for tobacco (from 7 percent to 21 percent), for marijuana (from 5 percent to 25 percent) and for other drugs (from 5 percent to 25 percent). Sibling influence to not use substances remained relatively constant (about 4 percent) across grade levels and substances.

Table 39
Perceived Influences on Substance Nonuse Decisions in 1990

	To Not Use Alcohol	To Not Use Tobacco	To Not Use Marijuana	To Not Use Other Drugs
Your parents	55	54	52	53
Your friends	18	18	17	16
A health teacher	5	10	10	10
Your brother/sister	5	5	5	5
A counselor from an alcohol/drug treatment center	2	2	4	3
A minister, priest, or rabbi	1	1	1	1
A police officer	4	3	4	4
A school nurse or counselor	9	8	8	10
Percent Total Sample Nonusers	78	89	95	97

The question 79-80 attempted to assess a less direct source of influence, the credibility of information sources. Table 40 describes student responses to the question, "Where did you get the information which is most important to you about alcohol and other drugs?"

Students ascribed the most importance to substance information they received from parents, a school teacher, TV or radio, and friends. This ranking varied from the ranking for perceived influences reported in Table 39. Parents were ranked first as both sources of information and influences to not use substances. Friends ranked second as an influence to not use substances and fourth as a source of substance information. School teacher ranked third as an influence to not use substances and second as a source of substance information.

Some grade level trends are apparent in Table 40. Parents, police officer and school counselor became less important sources of information with each increase in grade level. There was an increase in the perceived importance of information attributed to friends, and personal experience with each increase in grade level.

The importance of media sources of information was also indicated in Table 40. Print and broadcast media were chosen slightly less often than parents as important sources of information. The school was the primary source for books, magazines and pamphlets for most students. This observation is relevant when considering a school's overall influence on students' substance use decisions.

Table 40
Most Important Source of Information About Substance (Percent of Grade Level Samples)

	6th Grade	8th Grade	10th Grade	12th Grade
Talking with parents	26	20	14	12
School classroom teacher	15	19	15	14
Friends	5	8	13	16
Someone who is now using alcohol or drugs	2	3	7	6
Personal experience	1	2	7	10
Brothers or sisters	3	5	5	4
Counselor from an alcoholism/drug treatment center	4	3	5	4
School assembly	6	6	6	5
Police or other law enforcement person	13	5	4	3
School counselor	6	4	2	1
Books, magazines, or pamphlets	7	10	12	11
TV or radio	12	14	13	14

Table 41 reports data regarding trust in communications about substances. The question read, "If you had a problem with alcohol or other drugs and you wanted to talk with someone about it, where would you most likely go for help?"

A close friend and parents were most often chosen as sources of help for a substance problem. A close friend was more frequently chosen as a source of help with each increase in grade level. The opposite trend was true for parents/guardians. "Don't know where I would go", was consistently the third most often chosen response. Clergy and family doctor consistently ranked at the bottom of the list as possible sources of help.

Table 41
Perceived Sources of Help
for Substance Problem by Grade Level

	6th Grade	8th Grade	10th Grade	12th Grade	Total Sample
A close friend	30	48	57	58	49
Parents or guardian	32	19	10	11	18
Don't know where I would go	10	9	10	9	9
A crisis line or drug and/or alcohol treatment center	6	6	4	4	5
Brother, sister, or other young relative	4	7	8	6	7
A trusted adult (not mentioned above)	4	3	5	6	5
A school counselor or teacher	10	5	4	4	6
Minister, priest, rabbi	2	1	1	1	1
Our family doctor	1	1	1	1	1

One way to summarize the data on external influences is to compare total frequencies of selection for various persons. These comparisons suggest:

PARENTS consistently rank first as influences to not use substances and as the most important source of information. Parents rank second to peers as a source of help.

SCHOOL PERSONS (teacher, nurse and counselor) rank second as influencers to not use substances, second as a source of information, and fifth as a source of help.

PEERS rank third as influences to not use substances, third as a source of information and first as a source of help.

SIBLINGS rank fourth as influencers to not use substances, seventh as a source of information and fourth as a source of help.

The remainder of this section of the report describe findings about parent, peer and school influence on youth substance decisions.

1. Community Influence

A series of three questions were added to the short youth survey form to assess the availability of alcohol, tobacco and marijuana to students in Iowa communities. The questions were stated as follows "How easy is it for people your age to obtain **alcohol** (beer, wine, 'coolers'), **tobacco**, and **marijuana** in your community?"

The data in Table 42 reflect students' perceptions of the availability of alcohol to persons their age in their communities. A large number of students at each grade level did not perceive much difficulty ("slightly difficult" and "easy") in obtaining alcohol in their communities. The range was 29 percent of sixth grade and 88 percent of 12th grade students.

The data in Table 43 describe students' perceptions of the availability of tobacco to persons their age in their communities. Very few students (2-25 percent) perceived tobacco to be "very difficult" and "impossible" to obtain in their communities in 1990.

The data in Table 44 reports data rated to the availability of marijuana in Iowa communities. A majority (48-59 percent) of students reported that they "didn't know" how easy it would be for persons their age to obtain marijuana in their communities. Twenty-eight percent of 10th grade students and 36 percent of twelfth grade students perceived marijuana to be "slightly difficult" and "easy" for them to obtain in their communities.

Table 42
Perceived Availability of Alcohol by Grade Level
Samples in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Impossible	11	4	2	1
Very Difficult	12	7	3	3
Slightly Difficult	13	20	18	19
Easy	16	34	60	69
Don't Know	47	35	17	8

Table 43
Perceived Availability of Tobacco by Grade Level
Samples in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Impossible	13	4	1	1
Very Difficult	12	7	2	1
Slightly Difficult	12	14	8	5
Easy	16	35	65	79
Don't Know	45	40	23	13

Table 44
Perceived Availability of Marijuana by Grade Level
Samples in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Impossible	25	13	5	2
Very Difficult	14	14	8	7
Slightly Difficult	7	9	15	17
Easy	6	7	13	19
Don't Know	48	57	59	54

2. Family Influence

Question 3 asked students, "With whom do you live?" Student responses to the question are described in Table 45.

Most students (69-74 percent) lived with both parents. The second and third most frequently family systems were "mothers only" (12 percent) and "mothers and stepfather" (8-11 percent). Very few students reported living with "guardian/ foster parents" and "other relatives".

Table 45
Percent of Grade Level Samples Living Within Various Family Categories in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Both Parents	74	71	69	69
Mother only	12	12	11	12
Father only	2	3	3	4
Mother and Step-Father	10	11	10	8
Father and Step-Mother	2	2	3	2
Guardian/ Foster Parents	1	1	1	2
Other Relatives	1	1	1	2

Question 104 asked students, "How often do your parents take the time to talk with you about your interests, problems and plans for the future?" Student responses to the question are described in Table 46.

The data in Table 46 reflect a consistent pattern of responses across the four grade levels. Approximately 42 percent of all students responded that their parents "very often" and "often" talked with them regarding the students' interests, problems and plans for the future. Nearly 28 percent of all students reported that they "seldom" and "never" experienced such communications with their parents.

Table 46
Parent-Child Communications by Grade Level
Samples 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Very often	22	18	18	23
Often	21	22	22	24
Sometimes	30	29	27	27
Seldom	16	21	20	16
Never	7	8	9	6
Don't live with parents	1	0	1	1

Question 103 was stated as follows: "Parents have ways of telling you how they feel about you. How often do they tell their friends about you, hug and kiss you, and really seem to enjoy talking and being with you?" Student responses to the question are illustrated in Table 47.

Large numbers of students (48-64 percent) reported that their parents "often" and "very often" outwardly demonstrated affection toward them. A range of 14-25 percent of the students reported that their parents "seldom" and "never" showed affection toward them.

Table 47
Parent-Child Affection by Grade Level
Samples 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Very often	38	24	20	24
Often	26	28	26	24
Sometimes	17	26	25	22
Seldom	8	13	17	17
Never	6	6	8	8
Don't live with parents	1	1	1	1

Several questions in the survey related to parental influence on student substance use or nonuse. For convenience, data are organized according to parent guidelines regarding youth's use of alcohol, tobacco and marijuana (questions 106-108), parent models of alcohol and tobacco use (questions 109-112), and family substance abuse problems (question 113). The data report is descriptive, and no attempt was made to correlate these items and student use or nonuse behaviors.

Table 48
Parental Guidelines for Student Substance Use
(Percent of User Samples)

	Parents' Feelings-Alcohol	Parents' Feelings-Tobacco	Parents' Feelings-Marijuana
Percent of total sample nonuse	61	84	92
They don't know I drink/use . . .	47	42	57
They know I use . . . but wish I did not	23	30	13
They think I drink/use . . . too much	2	3	2
They know I drink/use . . . and don't care	5	4	4
They expect me to not get into trouble when I . . .	11	10	6
I don't know how they feel	13	11	18

Questions 106-108 asked students to assess their parents' guidelines regarding the youth's use of alcohol, tobacco and marijuana. The questions were phrased as follows:

"What are your parents' feelings about your alcohol use?"

"What are your parents' feelings about your tobacco use?"

"What are your parents' feelings about your use of marijuana . . . pot, grass?"

Student responses to these questions are summarized in Table 48. The first row of data in the table indicates the percentage of the total sample which reported being nonusers of each of the substances. Data appearing in the remainder of the table are percentages computed on user responses. These data represent what users of alcohol, tobacco and/or marijuana perceived to be their parents' guidelines for such use.

Approximately 47 percent of alcohol users, 42 percent of tobacco users and 57 percent of marijuana users reported that their parents did not know about their substance use. Another 11-18 percent of the users reported that they did not know how their parents felt about their substance use. The choices, "They know I use . . . but wish I did not" and "they think I drink/use . . . too much" were chosen by 25 percent of the alcohol users, 33 percent of the tobacco users and 15 percent of the marijuana users. The combined choices of "They know I drink/use . . . and don't care" and "They expect me to not get into trouble when I use . . . " were selected by 16 percent of the alcohol users, 14 percent of the tobacco users, and 10 percent of the marijuana users.

Many (47 percent) of the tobacco users reported that their parents knew about this behavior. Nearly 41 percent of the alcohol users and 25 percent of the marijuana users reported that their parents knew about the substance use.

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Questions 109 and 110 asked students to estimate the frequency of parent tobacco use. Responses to these questions are summarized in Table 49. Also included in the table are data for the frequencies of tobacco use among the total 12th grade sample in 1990.

Some differences in tobacco use are notable in Table 49. Students reported that their mothers were less frequent users of tobacco than their fathers. Fathers were more likely to have stopped smoking or to be heavy smokers than mothers. The sex differences in tobacco use were less apparent among boys and girls in the 1990 data (Table 18). The 1990 tobacco use patterns among 12th grade students were noticeably less than those of either parent model.

Questions 111 and 112 attempted to assess the frequency of alcohol use among parents. Responses are reported in Table 50.

Data in Table 50 imply that mothers are less frequent alcohol users than fathers. However, a greater percentage of mothers appeared to be occasional drinkers. The data indicate that fathers were likely to be regular and heavy users of alcohol. Youth alcohol use was more similar to fathers' drinking patterns than mothers' drinking patterns. Twelfth grade youth, however, were more likely to be regular users of alcohol than either parent.

Table 49
Percentages of Total Sample Reporting
Parent Use of Tobacco

	Mother Question 103	Father Question 102	Percentage of Grade 12 Reporting Use
Never smokes	57	41	62
Stopped smoking	12	19	18
1-6 times each week	5	6	7
7-25 times each week	5	7	2
4-10 times each day	8	10	7
More than 10 times each day	8	11	5
Parent not present in home	2	4	--

Table 50
Percentages of Total Sample Reporting
Parent Use of Alcohol

	Mother Question 105	Father Question 104	Percentage of Grade 12 Reporting Use
Never drinks	29	14	18
Stopped drinking	6	9	12
Occasionally drinks	44	37	31
Few drinks each week	11	20	30
Two or more drinks each day	4	11	9
I don't know	4	6	--

The data in Table 51 report student responses to the question, "Do any members of your family have an alcohol and/or other drug abuse problem?"

A majority of students (58-69 percent) reported that none of their families had a substance abuse problem. A range of 5-11 percent of the students reported that their parents and step-parents were substance abusers. A small percentage of students (8-15 percent) chose to not answer the question. The implication from the data set could be that an estimated 31-42 percent of the students experienced substance abuse within their families.

Table 51
Family Substance Problems by Grade Level
Samples in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Choose not to answer	15	12	9	8
None	69	68	58	58
Mother or Father	4	6	9	10
Brother or Sister	3	5	8	10
Step-parent	1	2	2	1
Grandmother or Grandfather	3	3	7	7
Aunts or Uncles	6	8	14	14

3. Peer Influence

Questions about peer influence were prevalent throughout the youth survey. Sets of questions, however, were designed to assess peer modeling of substance use (questions 8-11) and peer norms/attitudes regarding substance use (questions 29-34). The first set of questions stated, "How many of your friends drink alcoholic beverages/smoke tobacco/smoke marijuana/ use cocaine or crack?" The second set of questions asked, "How do you think your close friends feel (or would feel) about you . . . ?" in relationship to six common substance behaviors.

Table 52
Peer Use of Alcohol,
Tobacco, Marijuana and Cocaine in 1990

		None	A few (one or two)	Some (three or four)	Many (five or more)
How many of your friends drink alcoholic beverages?	Grade 6	79	16	3	3
	Grade 12	4	15	15	66
How many of your friends smoke tobacco?	Grade 6	87	9	2	2
	Grade 12	26	30	13	31
How many of your friends smoke marijuana?	Grade 6	96	3	0	1
	Grade 12	57	22	11	10
How many of your friends use cocaine or crack?	Grade 6	98	2	0	0
	Grade 12	85	10	3	2

The data in Table 52 show an increase in the number of friends who use substances with each increase in grade level. This pattern held for each substance behavior and grade level. It became more and more likely that a student would encounter alcohol, tobacco, marijuana, and cocaine use among his/her peers and close friends as the students move to each higher grade level.

The 1990 data indicate that it was very rare (4 percent) for 12th grade students not to have friends who used alcohol. Seventy-four percent of the 12th grade students reported having friends who smoked tobacco, 43 percent reported having friends who smoked marijuana, and 15 percent reported having friends who used cocaine or crack. In 1987 nearly 96 percent of the 12th grade students reported having friends who used alcohol, 74 percent reported having friends who smoked tobacco and 55 percent reported having friends who smoked marijuana. Data on peer use of cocaine or crack was not collected in the 1987 study.

A closer inspection of the data for questions 8-11 reveals some grade levels at which exposure to peer substance use greatly increased. Peer use of alcohol increased from 21 percent to 59 percent between sixth and eighth grade, and from 59 percent to 89 percent between eighth and 10th grade. A similar comparison is possible for tobacco use between eighth grade students (37 percent reported tobacco use among friends) and 10th grade students (65 percent reported tobacco use among friends). The largest increase in peer use of marijuana seemed to occur between eighth grade (13 percent reported marijuana use among friends) and 10th grade (34 percent reported marijuana use among friends). Cocaine use among peers increased from 2 percent of sixth grade to 15 percent of twelfth grade students.

Comparisons of 1987 and 1990 data indicate that there were few changes in reported peer use of alcohol. Reported peer use of tobacco was comparable in 1987 and 1990 studies. Reported peer use of marijuana was less in 1990 as compared to 1987 data sets. For example, 57 percent of 12th grade students in 1990 reported that none of their peers used marijuana as compared to 45 percent of 12th grade students in 1987 who gave this response.

Table 53 presents what youth perceived to be approved or disapproved substance behaviors among their peers. Students did not report strong peer approval of any of the six substance behaviors listed.

The 1990 data describe a general pattern of increased peer approval for each substance behavior with each increase in grade level. When responses are compared for each question it appears that, "getting drunk once or twice every week" (3-35 percent peer approval) and "taking 1-2 drinks every day" (9-20 percent peer approval) are the most likely of the six substance behaviors to be approved by peers. "Smoking one or more packs of cigarettes each day (4-18 percent peer approval) and "smoking marijuana regularly" (2-10 percent peer approval) were perceived to be the third and fourth most likely behaviors to be approved. The least often approved behaviors were "trying another illegal drug such as cocaine or downers" (2-4 percent peer approval) and "using cocaine or crack one or more times each week" (2 percent peer approval). A particularly salient finding from this data is that nearly 28 percent of 10th grade students and 35 percent of 12th grade students perceived that their peers would approve of getting drunk once or twice each week.

Comparisons of 1987 and 1990 data indicate two differences in student responses. Students in 1990 reported less peer approval at each grade level for "smoking marijuana regularly" and "getting drunk once or twice every week" than did students in 1987.

Table 53
Peer Norms Regarding Substance Use
(Percentage of Grade Level Samples)

		6th Grade	8th Grade	10th Grade	12th Grade
Smoking marijuana regularly (2 or more times each week)	Approve	2	5	9	10
Taking 1-2 drinks nearly every day	Approve	9	15	20	20
Getting drunk once or twice every week	Approve	3	12	28	35
Smoking one or more packs of cigarettes each day	Approve	4	9	17	18
Trying another illegal drug such as cocaine or downers	Approve	2	3	4	4
Using cocaine or crack one or more times each week	Approve	2	2	2	2

Question 20 on the short youth survey asked students, "How often in the last month have you been with other young people who were using alcohol or other drugs?" Student responses to the question are reported in Table 54.

The data in Table 54 depict a pattern of increased exposure to peer substance use with each increase in grade level. The pattern of increased contacts with substance using peers was consistent across grade levels and within the frequency of contact categories (e.g. 1 or 2 times per month).

Table 54
Contact With Peers Using Substances by Grade Level in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
Never	80	64	38	24
1 or 2 times	12	24	33	34
3-5 times	3	6	16	22
6 or more times	4	6	12	19

Question 12 on the long youth survey form asked students, "How many of your friends are having personal, school, or family problems related to their alcohol and/or other drug use?" The student responses to the question are reported in Table 55.

In general, students reported that more of their friends were experiencing problems related to substance use with each increase in grade level. Approximately 16 percent of sixth grade students reported they had friends who were experiencing problems related to substance use as contrasted with 39 percent of 12th grade students reporting substance-related problems among their friends.

Table 55
Substance Problems Among Peers by Grade Levels in 1990

	6th Grade	8th Grade	10th Grade	12th Grade
None	84	76	63	62
A few	14	18	27	31
Some	2	4	6	6
Many	0	2	4	2

Table 56
Perceived Impact of School Programs
on Substance Behaviors for Total Sample

	Tobacco	Alcohol	Marijuana	Other Drugs	Over All Substances
Yes, decided to not use . . .	37	34	44	47	41
Yes, decided to stop using . . .	5	5	2	1	3
No, we have not talked about . . .	6	5	4	3	5
No, already decided not to use . . .	41	31	44	45	40
No, already decided to use . . .	10	23	5	3	10
No, decided to start or to use more . . .	1	1	1	1	1

4. School Influence

Table 56 represents a summary of student responses to questions 81-84 on the 1990 survey. The percentages in the table are based on total sample data.

The six responses for each of questions 81-84 reflect several types of influence that school programs might exert. The choices, "decided to not use . . ." and "decided to stop using . . . ," represent a direct positive influence of school programs. The choice, "already decided to not use . . .", represent an indirect positive influence of school programs. The choice, "already decided to not use . . .", represents an indirect positive influence of school programs; the program reinforced a preselected behavioral choice. The choices, "we have not talked about . . .", and "already decided to use . . .", reflect a basically neutral position relative to program influence on substance behaviors. Finally, the choice, "decided to start or to use more . . .", indicates a negative influence of school programs. The findings on these questions indicate students' subjective perceptions of school program effects.

The data in Table 56 imply that school programs exerted some unique influences on each of the substance behaviors. According to student responses, only 3-6 percent of the students had not talked about the four substances in their schools. Responses also indicate that very few students had already chosen to use other drugs and marijuana. Conversely, a large number of students (31-45 percent) had already chosen not to use alcohol, tobacco, marijuana and other drugs. Only 1 percent of the students reported that school programs influenced them to start using or to use more substances.

Apparently, school programs have influenced a large number of students (34-47 percent) not to use substances. School programs appeared to exert the most positive influence on other drug and marijuana behaviors and the least positive influence on alcohol behaviors. Few students (1-5 percent) reported that school programs had influenced them to stop using substances.

Student responses on questions 81-84 were also clustered by grade levels. There were some obvious decreases in the percentages of students at each grade level who stated that the school program influenced them to not use substances:

- to not use alcohol . . . sixth grade - 58 percent and 12th grade - 14 percent
- to not use tobacco . . . sixth grade - 56 percent and 12th grade - 20 percent
- to not use marijuana . . . sixth grade - 59 percent and 12th grade - 30 percent
- to not use other drugs . . . sixth grade - 60 percent and 12th grade - 34 percent

The percentages of grade level samples that reported "already decided to not use . . ." the various substances increased with grade level (except for alcohol). These grade level increments are illustrated as follows:

- prior decision to not use alcohol . . . sixth grade - 33 percent and 12th grade - 27 percent
- prior decision to not use tobacco . . . sixth grade - 34 percent and 12th grade - 48 percent
- prior decision to not use marijuana . . . sixth grade - 34 percent and 12th grade 52 percent
- prior decision to not use other drugs . . . sixth grade - 34 percent and 12th grade - 54 percent

In general, school programs appear to have the most positive influence on preventing marijuana and other drug use by youth. School programs also appear to have a strong positive influence on the nonuse of tobacco by youth. School programs have the least positive influence on the nonuse of alcohol.

5. Summary of External Influence Findings

Following is an outline of some of the more salient findings regarding the external influences of youth substance behaviors.

Parents

- Youth indicated that their parents were the most important source of influence on their substance **nonuse** decisions.
- Youth reported that their parents were the most important source of substance information and their second most likely source of help for a substance problem.
- Youth who are substance users apparently receive a number of "mixed messages" from their parents about such behaviors.
- Reported patterns of tobacco use among 12th grade students were noticeably less than those of either their mothers or fathers.
- Reported patterns of alcohol use among 12th grade students were higher than those reported for either their mothers or fathers.
- Approximately one-third of the youth reported that some family members had substance abuse problems.

Peers

- Youth disclosed that their peers were the third most important source of influence on their substance **nonuse** decisions.
- Youth indicated that their peers were their third most important source of substance information and their most likely source of help for a substance problem.
- It was very likely that youth would associate with some friends/peers who used alcohol, tobacco, and marijuana.
- Peer modeling of marijuana and other drug use decreased in 1990 as compared to 1984 and 1987.
- Peer disapproval of some common alcohol, marijuana and tobacco behaviors decreased in frequency with each increase in grade level.
- Students did not report strong peer approval for any of the substance behaviors identified in the survey.
- Nearly 28 percent of 10th grade students and 35 percent of 12th grade students perceived that their peers would approve of "getting drunk once or twice each week."
- Approximately 16-38 percent of the students knew friends who were experiencing personal and school problems related to substance use.

Schools

- Youth indicated that school persons (teachers, nurse, counselor) were second most important source of influence to not use substances.
- School persons were reported to be youths' second most important source of substance information and the fifth most likely source of help for a substance problem.
- School programs were reported to have had a positive influence on students' nonuse of other drugs, marijuana and tobacco.
- School programs were reported to have had the least positive influence on student nonuse of alcohol.

Other

- Print and broadcast media were cited by 19-25 percent of the youth as their most important source of substance information.
- Tenth and 12th grade students reported that it was "slightly difficult/easy" for them to obtain tobacco and alcohol in their communities.
- Very few youth indicated that police and clergy had influenced their nonuse decisions.
- Police, clergy and family doctors were seldom chosen as a source of help or as an important source of substance information.

V. Personal Variables

Several questions are clustered under the category of personal variables. The questions were included in the youth survey to assess some internal influences on substance use or nonuse behavior. The questions also fit the categories of personal (adolescent) preferences and personal (adolescent) norms. Specifically, personal variable questions included:

Attitudes toward substances and substance behaviors (questions 13-28)
Substance knowledge (questions 71-78)
Motives for not using substances (questions 35-37)
Motives for using substances (questions 38-40)
Perceived risks of using substances (questions 61-70)
Decision-making styles (questions 59-60)
Behaviors associated with nonuse (questions 67, 85-89)
Behaviors associated with use (questions 90-103)

The results of personal variable questions are reported according to the format: overview of personal variables; alcohol behaviors and personal variables; marijuana behaviors and personal variables; and other drug behaviors and personal variables. The related behaviors section presents data relative to conforming and deviant behaviors. The last section presents a summary of the salient findings regarding personal variables.

1. Overview of Personal Variables

Questions 61-70 asked students to evaluate the risks involved in weekly use of several specific substances. The question was phrased, "How much do teenagers risk harming themselves (physically and mentally), if they use the following substances once a week?"

Table 57
Perceived Risks of Weekly Substance Use
(Percentages of Total Sample)

	No Risk	Some Risk	Great Risk	Don't Know
Cigarettes	6	53	36	5
Alcohol	4	45	47	3
Smokeless Tobacco	6	46	36	12
Marijuana	4	11	78	7
Cocaine or Crack	4	3	86	7
Hallucinogens	4	5	76	14
Amphetamines, Speed or Crack	4	6	79	11
Inhalants	4	10	69	17
Steroids	4	17	68	10
Other Narcotics	4	8	70	17

The data in Table 57 clearly indicate that students perceived "great risks" to their physical and mental well-being from weekly use of cocaine or crack (86 percent), amphetamines (79 percent), marijuana (78 percent) and hallucinogens (76 percent). Very few students (4-6 percent) considered weekly use of the 10 listed substances to pose "no risk". Many youth considered cigarettes (53 percent), alcohol (45 percent) and smokeless tobacco (46 percent) to pose "some risk" to their physical and mental health from weekly use.

Questions 35-37 asked students what they thought were the two most important reasons for not using alcohol, not using marijuana and not using other drugs. Each question had eight possible responses. Five nonuse motives were repeated among the eight possible choices for each substance. An additional group of four choices overlapped with two of the substance nonuse questions. Table 58 illustrates the overlap of nonuse motive choices between the three substance questions. The data are presented as percentages of the total 1990 sample.

Table 58
Overview of Motives for Not Using Substances
(Percentages of Total Sample)

	Not Using Alcohol	Not Using Marijuana	Not Using Other Drugs
They have better things to do	7	6	6
They don't like the way it makes them feel or behave	8	4	4
It's against their personal or religious beliefs	6	4	4
Is dangerous to their physical or mental health	23	48	39
There are too many risks of trouble with the police, employers, or school people	15	15	11
Their families disapprove	7	3	--
They don't like the people who use it	--	4	3
It's part of dropping out of life, something they don't want to do	--	16	13
They might become an alcoholic addicted to the other drugs	7	--	21
They might get into an accident and hurt someone	26	--	--

The data indicate that the total sample most often chose "... is dangerous to their physical or mental health" as the reason for not using alcohol (23 percent), marijuana (48 percent) and other drugs (39 percent). The response, "There are too many risks of trouble with the police, employers or school people" was frequently chosen for nonuse of alcohol (15 percent), marijuana (15 percent) and other drugs (11 percent). The three least often chosen reasons for not using substances were, "They have better things to do" (6 percent); "They don't like the way it makes them feel or behave" (4-8 percent); and "It's against their personal or religious beliefs" (4-6 percent).

The first and second most often chosen reasons for not using alcohol were, "They might get into an accident and hurt someone" (26 percent) and "Alcohol use is dangerous to their physical or mental health" (23 percent).

The first and second most often chosen reasons for not using marijuana were, "Marijuana use is dangerous to their physical or mental health" (48 percent) and "There are too many risks..." / "It's part of dropping out of life..." (16 percent)."

The first and second most often chosen reasons for not using other drugs were, "Other drug use is dangerous to their physical or mental health" (39 percent) and "They might become addicted to the other drugs" (21 percent).

The converse questions, reasons for using substances (questions 38-40), and their respective responses are reported in Table 59. The choices for these questions represented important reasons for using alcohol, marijuana and other drugs. Four responses (reasons for using) were repeated in each of the three questions. Another set of four responses overlapped with two questions. Each substance use question had seven possible responses from which to select two. The questions read, "Check what you think are the *two* (2) most important reasons for people drinking/using marijuana/using other drugs."

Table 59
Overview of Motives for Using Substances
(Percentages of Total Sample)

	Using Alcohol	Using Marijuana	Using Other Drugs
They like the way _____ makes them feel	16	21	14
Because they don't have anything else to do	3	2	2
They don't see anything wrong with _____	16	8	6
Because their (families and) friends use _____	14	21	16
To have a good time with people	20	7	--
To forget about their problems or unhappiness	26	18	--
To feel more important and confident/better about themselves	6	--	10
It's part of trying new things (curiosity, adventure)	--	22	9
To deal with the stresses and pressures of everyday life	--	--	41

Table 59 implies that students considered, "Because their (families and) friends use . . . " to be a major reason for using alcohol (14 percent), marijuana (21 percent) and other drugs (16 percent). Likewise, students also considered, "They like the way . . . makes them feel", to be a major reason for using alcohol (16 percent), marijuana (21 percent) and other drugs (14 percent). The least frequently selected reason for using alcohol, marijuana and other drugs was, "Because they don't have anything else to do".

The first and second most frequently chosen reason for using alcohol were, "To forget about their problems or unhappiness" (26 percent) and "to have a good time with people" (20 percent).

The first and second most frequently chosen reasons for using marijuana were, "It's part of trying new things" (22 percent) and "Because their friends use marijuana" (21 percent).

The most frequently selected reasons for using other drugs were, "To deal with the stresses and pressures of everyday life" (41 percent) and "Because their friends use the other drugs" (16 percent).

When Tables 58 and 59 are compared, some findings are evident. Many students perceive positive affective consequences ("feel good" or "feel better") from substance use. Students also perceive positive social sanctions ("Because their families/ friends use" and "to have a good time with people") to be associated with the use of alcohol and/or marijuana. Some students, however, did perceive negative social sanctions (e.g. trouble with school, police or employers) as a consequence of alcohol, marijuana or other drug use.

Several questions attempted to assess student attitudes toward substances (questions 23-28) and substance behaviors (questions 13-22). Table 60 reflects some general attitudes students have toward substances (questions 24, 26 and 28 are reported on later pages).

An overview of Table 60 reveals some patterns in the data. A large majority (74-87 percent) of students at each grade level agreed with the idea that one shouldn't take pills or drugs unless they are given by a physician. Differences among grade levels were evident in attitudes sampled in questions 25 and 27. Fewer students agreed with the statement, "Fewer people would use drugs if there were more drug arrests", with each increase in grade level. By 10th grade, fewer people agreed than disagreed with the "arrests" statement. As grade levels increased, fewer students appeared to agree with the statement, "It is hard for a teen to say no when offered alcohol or marijuana".

Student attitudes toward instrumental substance behaviors were sampled in questions 19-22. Instrumental behaviors were defined as substance use for a specific prupose. Student responses to the instrumental use questions are exhibited in Table 61. Some patterns are evident in this attitudinal data. Students considered the use of birth control pills more favorably than the use of a drug to lose weight or to help a nervous person relax. The least positive attitudes were expressed by students toward using a steroid to get bigger and stronger.

Table 60
General Student Attitudes Toward Substances
(Percent of Grade Level Samples)

		6th Grade	8th Grade	10th Grade	12th Grade
You shouldn't take any kind of pills or drugs unless your doctor gives them to you	Agree	87	82	74	74
Fewer people would use drugs if there were more drug arrests	Agree	64	59	46	47
It is hard for a teen to say no when offered alcohol or marijuana	Agree	69	61	54	46

Table 61
Student Attitudes Toward Instrumental Substance Use
(Percent of Grade Level Samples)

		6th Grade	8th Grade	10th Grade	12th Grade
Use of a drug to help a nervous person to relax.	Pro	48	48	53	54
Use of birth control pills.	Pro	53	75	85	91
Using a drug to lose weight.	Pro	22	27	32	30
Using a steroid to get bigger and stronger.	Pro	5	4	7	6

Table 62
Substance Knowledge by Grade Level
(Percent Correct)

	6th Grade	8th Grade	10th Grade	12th Grade
Smoking and pregnancy	36	56	68	72
Alcohol is a depressant drug	10	25	45	59
Tolerance for a substance	19	41	63	72
Intoxication level for drunk driving	11	32	65	74
Drinking and driving	18	33	58	71
Heart and blood pressure risks of cocaine	17	26	39	50
Marijuana clearance	15	25	31	41
Immediate risks of substances	4	6	9	7

Questions 71-78 attempted to sample student knowledge about substances and substance laws. Table 61 represents the percentage of students who correctly answered each question at each grade level. The topic of each question is described in the table. All questions were presented in a multiple-choice format with four possible answers and the option to respond, "I don't know".

Table 62 describe some patterns in student knowledge. Students most frequently know the correct response concerning "smoking and pregnancy", "tolerance for a substance", and "drinking and driving". Students were least often correct in answering the questions about "immediate risks of substances" and "marijuana clearance".

In general, more students knew the correct response to the questions with each higher grade level. More than 70 percent of 12th grade students knew the correct response to only four questions: "smoking and pregnancy", "tolerance for a substance", "intoxication level for drunk driving", and "drinking and driving". Less than 55 percent of 12th grade students knew the correct responses for three questions: "heart and blood pressure risks of cocaine", "marijuana clearance", and "immediate risks of substances".

2. Alcohol Behaviors and Personal Variables

This section focuses on motives for not using and using alcohol, attitudes toward alcohol, attitudes toward specific alcohol use behaviors and decision making in one alcohol-use situations. The section is designed to indicate how personal variables might affect alcohol use or nonuse.

Table 63
Motives for Not Using Alcohol

	6th Grade	8th Grade	10th Grade	12th Grade	Total
They might get into an accident and hurt someone	31	26	23	25	26
Alcohol is dangerous to their physical or mental health	27	27	22	14	23
Their families disapprove of drinking	7	8	6	8	7
There are too many risks of trouble with police, employers, or school people	13	13	16	18	15
Drinking is against their personal or religious beliefs	3	5	7	11	6
They don't like the way it makes them feel or behave	5	4	10	12	8
They might become an alcoholic	10	9	6	5	7
They have better things to do	5	7	9	8	7

Motives for not using alcohol were assessed through question 35, "Check what you think is the most important reasons for not drinking." The data in Table 63 indicate that the first and second most frequently chosen reason for not using alcohol were, "They might get into an accident and hurt someone" and "alcohol is dangerous to their physical or mental health". The response, "They might become an alcoholic" decreased in frequency with each increase in grade level. Three responses, "There are too many risks . . .", "Drinking is against their personal . . ." and "They don't like the way it makes them feel . . .", increased in frequency with each increase in grade level. "Their families disapprove of drinking" remained fairly high in frequency of choice regardless of grade level.

Motives for using alcohol were sampled through question 38, "Check what you think is the most important reason for people drinking". Table 64 is listed according to the percentages of students selecting each of the seven possible responses.

Table 64
Motives for Using Alcohol

	6th Grade	8th Grade	10th Grade	12th Grade	Total
To forget about their problems or unhappiness	33	32	21	16	26
To have a good time with people	14	13	22	29	20
They like the way alcohol makes them feel	13	13	18	18	16
They don't see anything wrong with drinking	15	16	15	18	16
Because their families and friends drink	16	16	14	11	14
To feel more important and confident	6	6	6	5	6
Because they don't have anything else to do	2	3	3	3	3

The two most frequently selected reasons for drinking were, "To forget about their problems . . ." and "To have a good time with people." The response, "To have a good time with people", increased in frequency of selection with each increase in grade level. The response, "To forget about their problems . . .", decreased in frequency with each increase in grade level. The responses, "To feel more important and confident" and ". . . don't have anything else to do," were consistently chosen least often by students at each grade level.

Question 62 attempted to assess students' perceptions of the physical and/or mental health risks of weekly alcohol use. Student responses are reported in Table 65.

Table 65
Perceived Risks from Alcohol Use

	6th Grade	8th Grade	10th Grade	12th Grade
No Risk	6	4	4	4
Some Risk	33	45	50	54
Great Risk	55	49	43	41
Don't Know	7	3	3	1

Student perceptions of "great risk" from weekly alcohol use decreased in frequency with each increase in grade level. The response, "some risk", increased in frequency of selection with each increase in grade level.

Questions 26 and 28 were designed to assess general student attitudes toward alcohol. Table 66 reveals that most students (79-94 percent) disagreed with the statement, "alcohol will help you be more friendly and outgoing". The 15 percent of 10th grade and 21 percent of 12th grade students who agreed with this statement corresponds well with the 22 percent of 10th grade and 29 percent of 12th grade students who chose, "To have a good time with people," as a most important reason for using alcohol.

Many students at 10th and 12th grade levels agreed with the statement, "There is nothing wrong with drinking beer or wine". The percentage of students who agreed with the statement increased with each increase in grade level.

Questions 13-15 described some specific alcohol use and nonuse behaviors and asked students to judge whether they thought the behaviors were good or bad. Responses to the series of questions are reported in Table 67. Large majorities of students (91-96 percent) indicated that they feel drinking and driving is a bad behavior. The greatest contrast in grade level responses was to question 13. Drinking several alcoholic beverages at a party was an approved behavior by 12 percent of sixth grade students and approved by 55 percent of 12th grade students. Approximately 34 percent of the sixth grade students approved of drinking two or three alcoholic beverages after work, while 60 percent of 12th grade students approved of the behavior.

Table 66
General Student Attitudes Toward Alcohol
(Percent of Grade Level Samples)

		6th Grade	8th Grade	10th Grade	12th Grade
Alcohol will help you to be more friendly and outgoing	Agree	6	8	15	21
There is nothing wrong with drinking beer or wine	Agree	18	33	48	58

Table 67
Student Attitudes Toward Specific Alcohol Behaviors
(Percent of Grade Level Samples)

		6th Grade	8th Grade	10th Grade	12th Grade
Drinking several (three or more) alcoholic beverages at a party	Good	12	22	39	55
Drinking two or three alcoholic beverages before driving	Good	5	4	5	9
Drinking two or three alcoholic beverages at home to relax after work	Good	34	45	56	60

Question 60 presented a situation that required an alcohol use or nonuse decision. Students were instructed to select one response they were likely to make in the following:

"Imagine that you stopped at a friend's house after school. None of your friend's family is home. Your friend takes two cans of beer out of the refrigerator and offers you one. What would you do?"

Student responses to the beer-at-a-friend's-home question are reported in Table 68.

Table 68
Student Decisions Regarding Alcohol Use at Friend's Home

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Refuse the can of beer, but stay there	9	14	16	20	15
Take the can of beer and drink it	7	23	42	45	29
Take the can of beer, but not drink it	5	6	4	3	5
Try to persuade your friend to not drink the beer	23	15	8	5	13
Refuse the beer and go home	28	12	5	3	12
Refuse the beer and threaten to tell your friend's parents	4	2	1	0	2
Refuse the beer and ask for a soft drink	16	19	17	19	18
Offer an excuse for not taking the beer ("I don't like the taste" or "Dad will be angry")	8	8	7	4	7

With the exception of sixth graders, the most frequently selected (23-45 percent) response to the beer-at-a-friend's-house situation was, "Take the can of beer and drink it". The second and third most frequently chosen responses were to "Refuse the beer and ask for a soft drink" and "Refuse the can of beer, but stay there". Very few students at any grade level selected, "Take the can of beer but not drink it" and "Offer an excuse for not taking the beer." The least popular response was "Refuse the beer and threaten to tell your friend's parents". Aside from 28 percent of sixth grade students, very few students chose the response of refusing the beer and going home.

3. Marijuana Behaviors and Personal Variables

This section includes data relevant to motives for not using and using marijuana, general attitudes toward marijuana, attitudes toward specific marijuana use or nonuse behaviors, and decision making in one marijuana use situation. It also describes some personal variables which might be related to marijuana use and nonuse.

Nonuse motives were assessed through student responses to question 36: "Check what you think is the most important reason for people not using marijuana." Students could choose from a list of eight possible responses. Response patterns to this question are reported in Table 69.

Table 69
Motives for Not Using Marijuana

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Marijuana is dangerous to their physical or mental health	48	52	47	45	48
There are too many risks of trouble with the police, employers, or school people	17	14	16	14	15
It's part of dropping out of life, something they don't want to do	22	17	13	13	16
Their families would disapprove	3	3	3	2	3
Marijuana use is against their personal or religious beliefs	2	2	5	8	4
They don't like the way it makes them feel or behave	3	3	5	6	4
They don't like the people who use it	3	4	4	5	4
They have better things to do	4	5	7	7	6

The most frequently selected reason for not using marijuana was "... is dangerous to their physical or mental health" (45-52 percent). The second most frequently chosen reason for nonuse was, "... too many risks of trouble ...." The third most frequently selected reason for nonuse was, "It's part of dropping out of life ...." The third most frequently chosen reason was, "... too many risks of trouble ...." There were very few differences between grade levels in response patterns for any of the nonuse reasons. The response, "Marijuana use is against their personal or religious beliefs", increased from 2 percent of sixth grade to 8 percent of 12th grade students.

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Question 39 identified motives for using marijuana: "Check what you think is the most important reason for people using marijuana." Student responses are reported in Table 70.

Table 70
Motives for Using Marijuana

	6th Grade	8th Grade	10th Grade	12th Grade	Total
It's part of trying new things (curiosity, adventure)	20	23	22	25	22
Because their friends use marijuana	26	21	20	16	21
To forget about their problems or unhappiness	20	19	19	14	18
They like the way marijuana makes them feel	16	19	22	28	21
To have a good time with people	7	8	8	6	7
They don't see anything wrong with using marijuana	8	7	7	9	8
Because they don't have anything else to do	2	2	1	2	2

The first and second most frequently selected reasons for using marijuana were, "It's part of trying new things" (20-25 percent) and "They like the way marijuana makes them feel" (16-28 percent). The third and fourth most often selected reasons for using marijuana were, "Because their friends use marijuana" (16-26 percent) and "To forget about their problems or unhappiness" (14-20 percent). The least frequently chosen reason for using marijuana was, "Because they don't have anything else to do".

Only one question in the survey assessed general attitudes toward marijuana. Table 71 reports responses to this question. The data reveal a large difference tween sixth and 12th grade students' attitudes toward experimentation with marijuana. Approximately 8 percent of sixth grade and 25 percent of 12th grade students agreed with the statement in 1990. The cross-studies comparisons indicate a decrease in pro-experimentation attitudes.

Another question required students to make a judgment about the behavior of smoking marijuana at a party (question 18). Student data for this question are reported in Table 72. Very few students at any grade level considered smoking marijuana at a party to be a good behavior. The number of students who approved the behavior increased with each increase in grade level. Students in eighth, 10th and 12th grades in 1990 were more disapproving of marijuana use than were their counterparts in previous studies.

Table 71
Students' General Attitude Toward Marijuana

			6th Grade	8th Grade	10th Grade	12th Grade
There is no harm in taking marijuana once or twice to find out what it is like	**Agree**	1990	8	13	20	25
	Agree	1987	8	16	29	35
	Agree	1984	9	14	24	34
	Agree	1981	12	24	34	45

Table 72
Students' Attitude Toward Marijuana Behavior
(Percent of Grade Level Samples)

			6th Grade	8th Grade	10th Grade	12th Grade
Smoking marijuana at a party	**Good**	1990	4	5	10	13
	Good	1987	4	8	13	16
	Good	1984	4	6	12	17
	Good	1981	3	10	10	27

Question 64 dealt with student perceptions of the mental and physical risks of weekly marijuana use. The data in Table 73 indicate that a large majority of students (76-79 percent) perceived weekly marijuana use to pose "great risk" to the user. Only 3-7 percent of the youth perceived "no risk" to weekly marijuana use.

Table 73
Perceived Risks from Marijuana Use

	6th Grade	8th Grade	10th Grade	12th Grade
No Risk	7	4	3	4
Some Risk	7	10	14	16
Great Risk	76	79	78	77
Don't Know	11	7	5	4

Question 59 dealt with peer influence to use marijuana. The question was: "What would you do if your friends began smoking marijuana and they kept pressuring you to smoke with them?" Students were provided with eight possible responses to this question. Data for question 59 are reported in Table 74.

Table 74
Student Decisions Regarding Marijuana Use in a Group Situation

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Try smoking marijuana once and then stop	3	6	7	6	5
Start smoking marijuana with them	1	4	8	7	5
Say no, but still hang around with them	8	16	21	20	16
Avoid being with them when they smoke marijuana	10	19	19	26	18
Try to get them to stop smoking marijuana	23	23	24	26	24
Find a new group of friends	30	21	16	12	20
Tell your parents about the situation and follow their advice	16	9	5	3	8
Tell school people or police and let them take care of it	10	2	1	1	4

The first and second most frequent responses were, "Try to get them to stop smoking marijuana" (23-26 percent) and "Find a new group of friends" (12-30 percent). The least frequently selected responses were, "Tell school people or police . . ." (1-10 percent) and "Start smoking marijuana with them" (1-8 percent). Two responses increased in frequency of selection with each increase in grade level. These responses were, "Say no, but still hang around with them" (from 8 percent to 20 percent) and "avoid being with them when they smoke marijuana" (from 10 percent to 26 percent). Three responses decreased in frequency of selection with each increase in grade level. These responses were, "Find a new group of friends" (from 30 percent to 12 percent), "Tell your parents . . . " (from 16 percent to 3 percent) and "Tell school people or police . . ." (from 10 percent to 1 percent). Approximately 4 percent of the sixth grade and 13 percent of the 12th grade students indicated that they would yield to peer influence and "Try smoking . . ." or "Start smoking marijuana . . ."

4. Other Substances and Personal Variables

This section reports findings about perceived risks of other drug use, motives for using and not using other drugs, and attitudes toward specific tobacco use or nonuse behaviors. The 1990 survey was not designed to assess motives for using or not using tobacco nor did it include attitudinal questions related to specific drug use or nonuse behaviors. No decision making situations were presented for tobacco or other drugs.

Questions 61-70 asked students to rate the risks posed to them from weekly use of several specific substances. Use of six specific substances are rated by students as "great risks" in Table 75.

Table 75
Perceived Great Risks from Using Other Drugs

	6th Grade	8th Grade	10th Grade	12th Grade
Cocaine or Crack	81	85	90	90
Hallucinogens	64	76	80	85
Amphetamines	71	80	82	85
Inhalants	58	69	72	75
Steroids	64	68	69	72
Other Narcotics	58	70	74	80

Students perceived that weekly use of cocaine or crack (81-90 percent) and weekly use of amphetamines (71-85 percent) posed the greatest risks to themselves. More students perceived great risk to themselves from using each of the six substances as the grade level increased.

Question 37 required students to, "Check what you think is the most important reason for people not using other drugs such as cocaine, amphetamines or hallucinogens". Responses to this question are described in Table 76.

The two most frequently selected reasons for not using other drugs, regardless of grade level, were, "Other drugs are dangerous to their physical or mental health" (34-42 percent) and "They might become addicted to other drugs" (18-23 percent). The two least frequently chosen reasons for not using other drugs, regardless of grade level, were, "They don't like the people who use other drugs" (2-3 percent) and "They don't like the way drugs make them feel or behave"(3-5 percent). Two other choices remained consistently low in frequency of selection: "They have better things to do" (5-6 percent) and "It's against their personal or religious beliefs" (2-7 percent).

Table 76
Motives for Not Using Other Drugs

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Other drugs are dangerous to their physical or mental health	34	39	41	42	39
They might become addicted to the other drug	23	22	20	18	21
There are too many risks of trouble with the police, employers, or school people	12	11	10	9	11
It's part of dropping out of life and they don't want to do that	18	13	10	10	13
It's against their personal or religious beliefs	2	2	6	7	4
They don't like the way drugs make them feel or behave	3	4	5	5	4
They have better things to do	5	6	6	6	6
They don't like the people who use other drugs	3	3	2	3	3

The motives for using other drugs were identified through question 40: "Check what you think is the most important reason for people using other drugs such as 'downers', cocaine, amphetamines or hallucinogens?" Students could select from seven possible responses. The patterns of student responses are reported in Table 77.

Regardless of grade level, students most often perceived that "Dealing with the stresses and pressures of everyday life" was an important reason for using other drugs (38-45 percent). The second most frequently identified reason for using other drugs was, "Because their friends use the other drugs" (12-20 percent). This response decreased in frequency with each increase in grade level. The third most frequently selected response was, "They like the way the other drugs make them feel" (11-21 percent). The percentage of students who chose this response increased with each increase in grade level. The two least frequently chosen responses, regardless of grade level, were, "They don't see anything wrong with using other drugs" (6-8 percent) and "Because they don't have anything better to do" (2 percent).

Table 77
Motives for Using Other Drugs

	6th Grade	8th Grade	10th Grade	12th Grade	Total
To deal with the stresses and pressures of everyday life	41	45	40	38	41
Because their friends use the other drugs	20	16	16	12	16
They like the way the other drugs make them feel	11	11	14	21	14
It's part of trying new things (curiosity, adventure)	7	8	12	12	9
To feel more important or better about themselves	12	11	10	8	10
They don't see anything wrong with using other drugs	7	6	6	8	6
Because they don't have anything else to do	2	2	2	2	2

5. Tobacco and Personal Variables

Table 78 represents student judgments about two tobacco behaviors. Students' attitudes toward tobacco use after a meal apparently became more tolerant with each increase in grade level. Students appeared to be more tolerant of "smoking after a meal" (12-39 percent) than they were of "smoking tobacco while riding in another person's car" (4-7 percent).

Comparisons of tobacco use attitudes in four study years are also reported in Table 78. Students in 1990 were less accepting of tobacco use, regardless of grade level, than were their grade cohorts in 1987, 1984 and 1981.

Two tables report students' perceptions of the physical and mental health risks of weekly use of cigarettes (Table 79) and smokeless tobacco (Table 80).

Most students (47-56 percent) perceived "some risk" to weekly use of cigarettes. Another 36 percent of the students perceived "great risk" to weekly cigarette smoking. Very few students (5-6 percent) perceived "no risk" in smoking cigarettes.

About one-third (33-39 percent) of the students perceived "great risk" to their physical and mental health from weekly use of smokeless tobacco. Another 35-54 percent of students reported "some risks" to weekly smokeless tobacco use. Very few students (5-7 percent) perceived "no risk" in using smokeless tobacco.

Table 78
Student Attitudes Toward Specific Tobacco Behavior
(Percent of Grade Level Samples)

			6th Grade	8th Grade	10th Grade	12th Grade
Smoking tobacco after a meal	Good	1990	12	21	33	39
	Good	1987	13	25	37	40
	Good	1984	18	28	38	43
	Good	1981	20	33	45	48
Smoking tobacco while riding in another person's car	Good	1990	4	4	7	5
	Good	1987	7	15	26	26
	Good	1984	8	14	21	26
	Good	1981	11	20	30	34

Table 79
Perceived Risk from Cigarette Use

	6th Grade	8th Grade	10th Grade	12th Grade
No Risk	6	5	5	6
Some Risk	47	54	56	56
Great Risk	37	36	36	36
Didn't Know	10	5	4	2

Table 80
Perceived Risk of Smokeless Tobacco Use

	6th Grade	8th Grade	10th Grade	12th Grade
No Risk	6	7	5	5
Some Risk	35	42	54	53
Great Risk	39	39	33	34
Don't Know	19	12	8	8

6. Related Behaviors

Other researchers have identified several behaviors which are associated with the nonuse of substances and several behaviors associated with the use of substances.

Conforming Behaviors

Questions 6 and 7 asked students to estimate the amount of time weekly they spent engaged in part-time work and leisure activities. The questions were worded as follows: "During the past week, how many hours did you work at a part-time job?" and "During the past week, how many hours did you spend in activities like sports, musical groups, clubs, service organizations?" Student responses are presented in Tables 81 and 82.

The number of hours students work part-time increased with each increase in grade level. The greatest increase in the frequency of part-time work appeared to occur between 10th grade and twelfth grade. Approximately 9 percent of tenth grade and 35 percent of 12th grade students reported working more than 16 hours per week.

Many students (37-51 percent) estimated that they spent 5-10 hours per week engaged in activities like sports, musical groups, clubs and service organizations. The 5-10 hours per week pattern appears to decrease with each increase in grade level. Approximately 14 percent of tenth grade and 14 percent of 12th grade students estimated that they spent 16 or more hours per week engaged in leisure activities.

Questions 85-89 asked students to estimate the number of times in the past month that they employed five types of conforming behaviors (negatively associated with substance use). Table 83 represents the percentages of the total 1990 sample reporting conforming behaviors in the past month. Approximately 81-85 percent of the youth in the 1990 sample reported that they engaged in individual or team sports, outdoor activities and worked on a hobby in the past month. "Participation in youth clubs . . ." was the behavior least often (32 percent) reported in the set of conforming behaviors. Nearly 62 percent of the 1990 sample reported participating in church activities one or more times in the past month.

Table 81
Part Time Hours Per Week

	6th Grade	8th Grade	10th Grade	12th Grade
None	84	80	65	33
5-10 Hours	13	15	17	17
11-15 Hours	2	3	8	16
16-20 Hours	1	1	5	18
21 or More Hours	1	1	4	17

Table 82
Leisure Hours Per Week

	6th Grade	8th Grade	10th Grade	12th Grade
None	27	23	31	35
5-10 Hours	51	49	40	37
11-15 Hours	11	17	15	14
16-20 Hours	5	6	8	8
21 or More Hours	4	5	6	6

Table 83
Conforming Behaviors Reported by Total 1990 Sample

How often in the last month . . .	Never	1 or 2 Times	3 to 5 Times	6 or more Times
Play individual or team sports like golf, tennis, or football	16	21	18	45
Do outdoor activities like fishing, hiking, or biking	15	31	24	29
Work on a hobby, collection or art project	19	32	23	26
Participate in church activities like church services, Sunday school, or youth groups	38	23	20	19
Participate in youth clubs like 4-H, scouting or YMCA	68	15	8	8

Deviant Behaviors

Data in Table 84 represent responses to questions concerning deviant behaviors. The percentages were reported for the total 1990 sample. Table 82 reveals that many youth (65-97 percent) did not engage in the deviant behaviors listed. The three behaviors which youth least often (3-5 percent) reported having done were the sale or distribution of substances, attack someone with a weapon, and use a weapon, force or threats to get money or things from someone. The most frequently reported deviant behaviors were, "Beat up on someone or fight someone physically . . ." (35 percent) and "Purposely damaged or destroyed property that did not belong to you" (18 percent).

Table 84
Deviant Behaviors Reported by Total 1991 Sample

How often in the last month . . .	Never	1 or 2 Times	3 to 5 Times	6 or more Times
Skipped school or cut classes	84	11	3	2
Purposely damaged/ destroyed property that did not belong to you	82	14	2	2
Taken something worth more than $15 that didn't belong to you	93	5	1	1
Sold or distributed marijuana or other drugs	97	1	1	1
Run away from home	90	7	1	1
Beat up on someone/fight someone physically because he/she made you angry	65	24	5	5
Appear in court for committing a crime	93	5	1	1
Break into a building to steal or damage something	94	3	1	1
Attack someone with a weapon, trying to seriously hurt him/her	95	2	1	1
Use a weapon, force or threats to get money/ things from someone	95	2	1	1

Substance Use and Traffic Safety

Questions 91 and 93 dealt with substance use and traffic safety. Question 91 asked students, "How often in the past month have you ridden in a car that was driven by someone who had been drinking?" Question 93 asked students, "How often in the last month have you driven a car after using alcohol or other drugs?" Only the data from 10th grade and 12th grade students are reported in Table 85.

Table 85
Substance Use and Traffic Safety

How often in the last month . . .	Never	1 or 2 Times	3 to 5 Times	6 or more Times
Driven a car after using alcohol or other drugs (10th grade)	90	6	2	1
Driven a car after using alcohol or other drugs (12th grade)	73	19	5	3
Ridden in a car being driven by someone who had been drinking (10th grade)	68	22	7	3
Ridden in a car being driven by someone who had been drinking (12th grade)	60	27	9	4

Approximately 10 percent of 10th grade students and 27 percent of 12th grade students reported driving while under the influence of alcohol or drugs. Data extrapolations would project that nearly 19,000 senior high students are at immediate and serious risk of injury each month from substance-related crashes.

Nearly 32 percent of 10th grade students and 40 percent of 12th grade students reported that they had ridden in a car driven by someone who had been drinking. Extrapolations from these data sets project that approximately 37,000 senior high students are at immediate and serious risk of injury each month from alcohol-related crashes.

7. Summary Of Findings For Personal Variables

A number of specific findings regarding motives for using and not using substances, substance knowledge, substance attitudes and associated behaviors were presented as personal variables which affect substance use and nonuse. Several trends or patterns appear in these data.

Functions of Age-many personal variables appeared to change with age (grade level). Apparently, as Iowa youth become older:

- Their attitudes toward substances and substance behaviors "softened". Youth became more tolerant or accepting of substance use.
- Their knowledge of substances and substance effects increased.
- They became more aware of peer, parental and media influences on their personal substance use or nonuse.
- They were more likely to recognize their own personal and religious beliefs as a factor in substance use and nonuse.
- They were more likely to use alcohol, tobacco, marijuana and other drugs.

Functions of Experience and Opportunity - Many personal variables were affected by experience and opportunity. Several pieces of data indicate that youth were more likely to experience substance use, either directly or indirectly, with each increase in grade level. It is very likely that these substance experiences and opportunities became more influential in personal substance use or nonuse decisions.

Function of Information - Most youth recognized the need for information about substances and the consequences of substance use. Data on sources of information indicate the relative credibility youth assign to information received from parents, school, peers and media sources. Evidently, information about tobacco, marijuana and other drugs has influenced students' decisions regarding the nonuse of these substances. Pro-alcohol use messages and information have clearly influenced most youth to use alcohol.

Function of Enculturation - The data suggest that youth are most accepting or tolerant of "socially acceptable" substance use behaviors - alcohol use and instrumental substance use. Evidently, tobacco, marijuana use and other drug use have become more "socially unacceptable" to Iowa youth since 1975. Most youth, however, view teen alcohol use as a developmental task or stage. Alcohol use is viewed by youth as a "rite of passage" or a culturally expected behavior of adolescents. Students do learn to recognize what are positively and negatively sanctioned substance behaviors.

Function of Alternatives - The data indicate that very few youth perceive boredom (or "nothing else to do") as an important reason for using substances. Iowa youth were substantially involved in a wide variety of constructive or conforming behaviors. In each year since 1975, more youth have become involved in church and extracurricular activities. Students indicated that the most important reason for using alcohol was to have a good time with people.

Paradoxical Findings - Several inconsistencies were apparent among knowledge, attitudes, motives and reported substance use. The most dangerous of the paradoxes involves drinking and driving. For example, 55 percent of the 12th grade students reported that drinking several alcoholic beverages at a party was a good/OK behavior; 81 percent of the students said that it was bad/not OK to drive after drinking; and 27 percent admitted to having driven after using alcohol or other drugs.

The findings for personal variables portray areas of logical association with substance behaviors.

VI. Summary And Recommendations

The 1990-91 Iowa Study of Alcohol and Drug Attitudes Among Youth was the sixth in a series of tri-annual studies. A primary goal of the study series has been to assess trends in youth substance attitudes, knowledge and behavior. The assessment has provided useful planning data for school persons and other people involved with the health of Iowa youth.

The 1990-91 youth study was specifically designed to answer four research questions:

- What is the present status of substance use, attitudes and knowledge among youth?
- What are some important trends in youth substance use, attitudes and knowledge?
- Which people seem to be the major influences in a youth's decision to use or not use substances?
- What actions do the findings of the 1990-91 study suggest for school persons?

A 113-item survey was developed for the 1990-91 study. The survey instrument was designed to provide some general and specific answers to the research questions. The survey included questions regarding substance use and nonuse, motives for using and not using substances, knowledge of substance information, parent and peer substance models, attitudes toward substances, and other questions related to substance use or nonuse. The survey instrument was designed to be read and answered anonymously by sixth, eighth, 10th and 12th grade students in group settings.

A stratified random sample of 86 public school districts was the basic sampling unit. All school districts could elect to participate or not participate in the youth survey. Ten districts chose to not participate in the survey.

The second and third sampling units were attendance centers within a school district and class enrollments in the sixth, eighth, 10th and 12th grades. The minimum student sample was 18 at each of the four grade levels. Data were collected from 1782 sixth grade, 1828 eighth grade, 1882 tenth grade and 1677 twelfth grade students. Students could also choose to not participate in the survey, but very few chose not to do so.

The sampling design, the survey and the procedures for administering the survey were very similar for the 1975, 1978, 1981, 1984, 1987 and 1990 studies. These similarities allowed relevant data comparisons among study years.

The 1990-91 youth data were processed at the Statistical Laboratory at Iowa State University.

The data was reported in various tables according to topics covered in survey questions.

RESEARCH QUESTIONS 1 AND 2: STATUS AND TRENDS

The following outline presents findings relevant to research questions 1 and 2: current status and trends in youth substance behaviors, attitudes and knowledge.

1. Alcohol Use and Nonuse in 1990
   - Approximately 92 percent of the 12th grade students had tried alcohol.
   - Most youth (60-70 percent) had tried alcohol by age 14.
   - Nearly 88 percent of sixth grade and 30 percent of 12th grade students reported themselves to be nonusers of alcohol.
   - The largest increase in the number of alcohol users seemed to occur between sixth and eighth grade (22 percent) and eighth and tenth grade (24 percent).
   - The greatest increase (14 percent) in regular use of alcohol seemed to occur between eighth and tenth grade.
   - The largest increase (4 percent) in heavy use of alcohol was observed between tenth and twelfth grade.
   - The frequency of alcohol use among male and female students was very similar.
   - Alcohol use in 1990 appeared to be least prevalent in semiurban districts and most prevalent in urban districts.
   - Students reporting the consumption of three or more drinks per occasion rose from 2 percent of sixth grade to 51 percent of 12th grade samples.

2. Alcohol Use and Nonuse Trends 1975-1990

   Comparisons of youth data from 1975, 1978, 1981, 1984, 1987 and 1990 indicate:
   - A continued downward trend in the number of alcohol users in 1990.
   - A continued decline in the casual, regular and heavy use of alcohol among sixth and eighth grade students.
   - A continued decline in the regular and heavy use of alcohol in tenth and twelfth grades.
   - A decrease in the casual and regular use of alcohol in semiurban, semirural and rural districts.
   - A downward trend in heavy alcohol use in urban and rural districts.
   - An increase in the number of male and female students in 1990 who had never used alcohol.

3. Tobacco Use and Nonuse in 1990
   - Approximately 33-45 percent of the youth in the survey had tried tobacco by age 14.
   - Approximately 12 percent of Iowa youth smoked tobacco.
   - The age range 9-12 years appeared to be the period of highest initial tobacco use.
   - The largest increase in regular tobacco use was apparently between sixth and eight grade.
   - Heavy tobacco use seemed to increase most between eighth and 10th grade.
   - Female and male tobacco use patterns were very similar.
   - Heavy tobacco use was observed most frequently among urban and semiurban districts.
   - Very few differences were observed in smokeless tobacco use in comparisons between the four categories of school districts.

4. Tobacco Use and Nonuse Trends 1981-1990
   Comparisons of youth data from 1975, 1978, 1981, 1984, 1987 and 1990 indicate:
   - A continued trend of more "never use" across the four grade levels.
   - An increase in the number of students who had "tried" tobacco and stopped was observed in 1990.
   - Regular tobacco use declined in urban, semiurban and semirural districts.
   - An increase was observed in the number of students who had never used "smokeless tobacco".

5. Marijuana Use and Nonuse Trends in 1990
   - A majority of students (72-98 percent) had not tried marijuana.
   - Nearly 28 percent of 12th grade students had tried marijuana.
   - Approximately 19 percent of 10th grade and 11 percent of 12th grade students were current users of marijuana.
   - The greatest increase in the number of casual, regular and heavy users of marijuana seemed to occur between eighth and tenth grades.
   - Casual and heavy use were more common among urban youth.
   - Casual and regular use patterns were very similar for female and male students.

6. Marijuana Use and Nonuse Trends 1975-1990
   - The number of students who had never tried marijuana continued to increase through 1990.
   - The decline in marijuana use in 1990 was observed for casual, regular and heavy use patterns.
   - Casual, regular and heavy use declined in urban and semiurban school districts.

7. Other Drug Use and Nonuse in 1990
   - A very small number (2-14 percent) of students had tried other drugs.
   - The age range 13-16 years appeared to be the period of highest initial use of the other drugs.
   - Very few students (3.5 percent) reported being current users of other drugs.
   - The largest increase in the number of other drug users occurred between eighth and tenth grades.
   - Male and female other drug use patterns were very similar.
   - The data indicate that the larger the school district, the more likely that students would use other drugs.
   - The data indicate that very few students (1 percent) were current users of cocaine/crack and very few students (1 percent) were current users of anabolic steroids.

8. Other Drug Use and Nonuse Trends 1975-1990
   - A consistently high percentage (94-98 percent) of sixth and eighth grade students had never tried other drugs.
   - Fewer 12th grade students had tried other drugs in 1990 (14 percent) than had tried them in 1987 (19 percent), 1984 (19 percent) and in 1981 (21 percent).
   - The downward trend in other drug use seemed to continue in 1990.

9. Polysubstance Use and Nonuse in 1990

   Polysubstance use refers to the use of two or more substances within a proscribed period. Computer sorts on the 1990 data resulted in the determination of the number of students who were: nonusers of any substance, users of alcohol only, users of both alcohol and marijuana, users of alcohol and other drugs, users of marijuana and other drugs, and users of all three categories of substances.

- "Alcohol only" accounted for the largest group of users at each grade level (11-59 percent).
- Very few students at any grade level were categorized as marijuana users only (.1-.3 percent) or other drug users only (0-.1 percent).
- The most frequently reported substance combinations were "alcohol and marijuana" (.4-6.3 percent) and "use of all substances" (.5-4.2 percent).
- Males were more frequently "alcohol and marijuana users" than were females.
- Polysubstance use appeared to be more common among urban school districts.

10. Polysubstance Use and Nonuse Trends 1975-1990
    - The 1990 data show an increase in the number of students who were nonusers of any substance.
    - The 1990 data indicate a decline in the "alcohol and marijuana" "alcohol and other drugs" and "use of all substances" categories for eighth grade, tenth grade and 12th grade students.
    - The number of "alcohol only" users decreased in sixth and eighth grade in 1990 as compared with 1987, 1984 and 1981.
    - In 1990 there was a 8-18 percent increase over 1981 in the number of "nonusers of any substance" in each of the four size categories of schools. The percent increases were: 8 percent (urban), 18 percent (semiurban), 12 percent (semirural) and 14 percent (rural).

11. Student Attitudes Toward Substance and Substance Behaviors

    A general observation from these data is that student attitudes toward substances and substance behaviors became more tolerant with each increase in grade levels. The major findings regarding student substance attitudes in 1990 are listed below:
    - As grade level increased, fewer students (69-46 percent) agreed with the statement, "it is hard for a teen to say no when offered alcohol or marijuana".
    - Student attitudes varied toward different types of use behavior. Students reported the most favorable attitudes toward instrumental use and alcohol use and the least favorable attitudes toward tobacco use, marijuana use and other drug use.
    - Large percentages of students (91-96 percent) considered drinking and driving to be bad/wrong behaviors.
    - Drinking several alcoholic beverages at a party was approved behavior among 12 percent of sixth grade and 55 percent of the 12th grade students.
    - Approximately 34 percent of the sixth grade and 60 percent of the 12th grade students approved of drinking two to three alcoholic beverages after work.
    - Approximately 18 percent of the sixth grade and 58 percent of the 12th grade students agreed that there is nothing wrong with drinking beer or wine.
    - There was a marked decline in pro-marijuana attitudes in 1990 as compared to other study years.
    - Approximately 8 percent of sixth grade and 25 percent of 12th grade students agreed that there is no harm in taking marijuana once or twice to find out what it is like.
    - A minority (4-13 percent) of students judged smoking marijuana at a party to be a good/OK behavior.
    - Nearly 12 percent of sixth grade and 39 percent of 12th grade students considered smoking tobacco after a meal to be a good/OK behavior.

12. Substance Knowledge Among Students

    Eight questions were included in the survey to assess student knowledge about substances. Students were more likely to answer questions correctly with each increase in grade level.
    - Students most frequently knew the correct answers to questions concerning smoking and pregnancy, tolerance for a substance, intoxication level for drinking and driving.
    - Students were least often correct in answering questions concerning immediate risk of substance use, marijuana clearance and heart and blood pressure risks of cocaine.

RESEARCH QUESTION 3: INFLUENCES ON YOUTH SUBSTANCE DECISIONS

Many survey questions were designed to assess the influence exerted by external sources, including parents, schools, peers and others. Another set of questions attempted to assess internal sources of influence (personal variables). The major findings concerning external and internal sources of influences are reported below.

1. External Sources of Influence

Parents consistently ranked first as influences to not use alcohol, tobacco, marijuana and other drugs. Parents were most frequently cited as the primary source of substance information. Parents ranked second (in terms of frequency of selection) to peers as a source of help for a substance problem.

Peers ranked third as an influence to not use substances. Peers ranked third as a source of information and first as a source of help.

School Persons (teachers, nurse and counselor) ranked second as an influence to not use substances, second as a source of substance information and fifth as a source of help.

Other: Print and broadcast media were cited by 19-25 percent of the youth as their most important source of substance information.

Other: Approximately one-third of the youth reported that some of their family members had substance abuse problems.

Specific findings for external sources of influence are as follows:

- Approximately 47 percent of alcohol users, 42 percent of tobacco users and 57 percent of marijuana users reported that their parents did **not** know about these behaviors.
- Nearly 41 percent of alcohol users, 47 percent of tobacco users, and 25 percent of marijuana users reported that their parents knew about these behaviors.
- Students reported that 57 percent of their mothers and 41 percent of their fathers never smoked tobacco. This compares with 62 percent of the 12th grade students who reported never using tobacco. Students also reported that 12 percent of their mothers and 19 percent of their fathers had stopped smoking. Eighteen percent of the 12th grade students reported having stopped smoking.
- Students reported that nearly 29 percent of their mothers and 14 percent of their fathers never drank. Moderate drinking (occasionally/a few drinks each week) was reported for 55 percent of the mothers and 57 percent of the fathers. Nearly 61 percent of the 12th grade students reported being moderate/frequent drinkers .
- Personal contact with peers who used alcohol, tobacco and marijuana became more and more likely with each increase in grade level.
- Approximately 35 percent of 12th grade and 28 percent of 10th grade students reported that their friends would approve of them getting drunk once or twice every week.
- Nearly 10 percent of the 12th grade and 9 percent of the 10th grade students said that their friends would approve of them smoking marijuana.
- Very few students (2-4 percent) perceived peer approval for the use of cocaine or other illegal drugs.
- Student data indicate that most schools have provided information about substances.
- Apparently, school programs have influenced many (34-47 percent) students to not use substances and reinforced the 31-45 percent of students who had previously decided to not use substances. School programs appeared to exert the most positive influence on the nonuse of marijuana, tobacco and other drugs. A small percentage of students (1-5 percent) reported that school programs had influenced them to stop using substances. School programs seemed to have had the least positive influence on student nonuse of alcohol.
- Very few students (4-24 percent) perceived that it would be "impossible/very difficult" for them to obtain alcohol in their communities.
- Very few students (2-25 percent) perceived that it would be "impossible/very difficult" for them to obtain tobacco in their communities.

2. Internal Sources of Influence (Personal Variables)

Internal sources of influence on substance use and nonuse behavior included attitudes about substances and substance behaviors, perceived motives for using/not using substances, conforming/nonconforming behaviors, and decision-making styles. Findings regarding motives, decision making and related behaviors were not reported earlier in this summary. Relevant findings for these variables are listed below.

Motives For Not Using

- Students most frequently selected, ". . . is dangerous to their physical or mental health" as an important reason for not using alcohol (23 percent of total sample), marijuana (48 percent of total sample) and other drugs (39 percent of total sample).
- The response, "They like the way . . . makes them feel," was frequently selected as a reason for using alcohol (16 percent of total sample), marijuana (21 percent of total sample) and other drugs (14 percent of total sample).
- Two responses, "They like the way . . . makes them feel" and "to have a good time with people", increased in frequency of selection with each increase in grade level.
- "Because they don't have anything else to do", was very seldom selected as an important reason for using alcohol, marijuana or other drugs.
- The two most frequently reported reasons for using alcohol were, "To forget about their problems or unhappiness" and "To have a good time with people".
- The two most frequently reported reasons for using marijuana were, "It's part of trying new things" and "They like the way marijuana makes them feel".
- Students most often perceived, regardless of grade level, that "Dealing with the stresses and pressures of everyday life" was an important reason for using other drugs.

Decision Making In Substance Situations

- One question presented a situation in which a friend offered the student a beer at the friend's home. There were eight possible responses for the situation from which students could select only one. With each increase in grade level, more students reported that they would acquiesce to peer influence to drink. For example, 7 percent of the sixth grade reported that they would drink the can of beer offered by a friend while 45 percent of 12th grade students selected this response.
- One question described a situation which involved peer influence to use marijuana. Almost 4 percent of sixth grade and 13 percent of 12th grade students indicated that they would yield to peer influence and use marijuana.
- Comparisons of 1990, 1987 and 1984 youth responses indicate that more youth in 1990 would not yield to peer influence to use the alcohol and marijuana.

Related Behaviors

- Approximately 81-85 percent of the youth in the 1990 survey reported that they engaged in individual or team sports, outdoor activities or worked on a hobby one or more times in the past month.
- Nearly 62 percent of the total sample reported participating in church activities one or more times in the past month.
- Most students (82-97 percent) did not participate during the previous month in nine of ten deviant behaviors listed. The most frequently mentioned deviant behaviors were "Beat up on someone/fight someone physically because he/she made you angry" (35 percent of total sample) and "Purposely damaged/destroyed property that did not belong to you" (18 percent of total sample).
- The data for 12th grade students reveal that 27 percent of them had driven a car after using alcohol or other drugs on one or more occasions in the past month. The comparable statistics for 1987 were 38 percent, for 1984 were 42 percent and for 1981 were 46 percent of the 12th grade sample.
- The 1990 data indicated that 30-40 percent of the students had ridden in a car being driven by someone who had been drinking alcoholic beverages on one or more occasions in the past month.

RESEARCH QUESTION 4: RECOMMENDED ACTIONS FOR SCHOOL PERSONS AND OTHERS

The 1990-91 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth provided a very broad perspective on substance use in Iowa. Much information from the six study years of 1975, 1978, 1981, 1984, 1987 and 1990 has been condensed in this report.

Five major themes were consistently repeated in the survey:

- Youth decided to use or not use substances.
- Peers, parents, school persons and media exert their influence on a youth's decisions to use or not use substances. Many factors within the individual (e.g., values, personal or religious beliefs, substance attitudes, self-esteem) strongly influence his/her substance use or nonuse behaviors.
- Adolescence is a very healthy life stage through which most Iowa youth pass successfully.
- All adolescents are not basically alike. It is damaging and misleading to generalize to all youth the behaviors, problems and characteristics exhibited by a few.

The five themes and the data from the survey logically lead to some specific recommendations for school persons, families and persons who serve youth. Some specific actions can be taken to respond to student substance use. Less obvious, however, are community values, attitudes and behaviors that influence students' decisions regarding substance use and nonuse. Community responses to student substance use must consider the phenomena of modeling, imitation, identification, socialization and community sanctions. Youth receive some very diverse messages from their parents, peers, school persons, churches, community leaders and the media regarding substances and substance behaviors.

Recommendations regarding these social influences and community responses are necessarily limited to actions supported by the data in the six youth surveys.

1. Recommendations for School Persons

Curriculum and Instruction - Students and parents expect schools to be a primary source of information about substances and substance behaviors. School persons must recognize the appropriateness and credibility of the information they present to students. Such information and the way in which it is presented should match the developmental concerns and interests of students. Classroom instruction should help students reduce the ambivalence and/or confusion between their substance attitudes, motives, knowledge and actual substance behaviors. Classroom instruction should help students develop the skills to both abstain from substance use and carry through responsible substance decisions personally and socially. Specifically school persons should:

- Reassess the time and emphasis given to specific substances and substance behaviors. For example, students indicated that more instructional time is given to "other drugs" and marijuana and less time is given to alcohol, tobacco and medicines.
- Evaluate the major concepts which should be learned through the substance education program. Particularly important are the concepts of substance interactions, physiological predispositions for dependency, high- and low-risk behavior, substance dependency, prevention of substance abuse, non-substance alternative behaviors and responsible use of medicines and over-the-counter drugs.
- Reconsider the two concepts of dysfunctional families and enabling substance use in relationship to substance abuse and dependency. Many Iowa students, approximately 33 percent of any class, are living in a family where one or more members are substance abusers. Sensitive instruction and support can help these students more constructively cope with their dysfunctional family situations.
- Recognize in curriculum and instruction the developmental shift from student concerns at the elementary level (i.e., health facts and personal safety rules) to their concerns at the secondary level (i.e., personal lifestyle and the social and psychological consequences of substance use and nonuse). For many secondary students the curriculum must be designed to discourage continued use of alcohol, tobacco and other drugs.
- Curriculum and instruction should emphasize the concept of low-risk/no-risk choices as applied to substance behaviors.
- Any health education curriculum adopted by a school district should give major instructional emphasis to substance abuse prevention and the necessary competencies to adopt healthful lifestyles.

School Interventions - Students and their families look to schools as a source of help for problems related to substance use. Early identification and early interventions are plausible roles for school persons, especially in the following circumstances:

- Students who have become dependent upon substances.
- Students who are regular or heavy users of substances.
- Students seeking help for a friend or sibling.
- Students experiencing personal and/or school problems related to their parents' substance use.
- Students who wish to return to school after completing a substance abuse treatment program.

School persons should reconsider their roles, policies and procedures for getting or giving help to students in each of these circumstances. Many Iowa youth, however, indicate that they consider school personnel to be a "threat" (i.e., judgmental attitudes and punitive approaches) to obtaining such help. Six specific actions are suggested by this information and youth data:

- Review school policies and procedures in respect to the circumstances listed above. The policy review should also consider procedures for helping school staff who are experiencing substance abuse problems. District policy should be based on the philosophy of assisting people to receive help for a health problem.
- Reassess working relationships with substance abuse and other community helping services. It may be necessary for schools to act as a catalyst to develop needed services for youth, their families and school staff.
- Establish three forms of additional training for school personnel: 1) a general staff training on how to encourage and support students for nonuse behavior, 2) staff training to recognize substance problems and how to initiate appropriate referrals for students experiencing these problems, and 3) a focused training for selected school personnel so that they can function as an intervention team.
- Publicly recognize the reality of student substance use. A periodic youth assessment will indicate the extent of substance use and help set directions for the school's response to student substance use.
- Consider implementing a "peer helper" program at the secondary level. The data clearly indicate that youth will turn to their peers for substance information and help. The data also indicate that many youth would positively respond to peer support for nonuse of substances. Peer helping programs have functioned effectively as both a prevention and intervention approach.
- Establish a support group or network for children from substance dependent families. Such support groups are the earliest interventions with a very high-risk group. School persons can take an active role in establishing support groups in the community or at school.

2. Recommendations for Parents and Families

Many parents and families can be reassured that they are "doing some things right." Youth perceive parents to exert many positive influences on their substance behaviors. Most youth view their parents as a source of help for substance problems. A majority of youth reported positive communications and support from their parents. All parents and families should be encouraged not to forfeit these positive relationships and influence when their children enter the teen years. Some specific recommendations are apparent:

- Children and youth strongly identify with the substance behaviors of their parents and siblings. Family members must be willing to examine their own substance use behaviors and change those which they don't wish youth to adopt.
- Many communities allow families of substance-dependent youth to remain isolated. Such families can offer encouragement and support to one another as they try to cope with the problems associated with substance dependency/abuse among their children. Family support groups are very important in the whole continuum from identifying and confronting substance abuse/dependency through treatment and after care.
- Families can work together to plan and carry out nonsubstance activities. For example, Project Graduation demonstrates concretely that people can have a great time together without using substances.
- Parents should be encouraged to get to know their children's friends and their friends' parents. Such communication networks will help to dispel the notion that "everyone else is doing it" or that other families condone youth substance use.
- Substance education begins very early through the broadcast media and films. Family members need to be well-enough informed to effectively counteract the negative media messages their children receive. For example, most media messages regarding alcohol and over-the-counter substances repeat the theme "you have a right to feel good" and "our product will make you feel good or feel better about yourself."

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3. Recommendations for Agencies Serving Youth

Approximately 8 percent of Iowa youth indicated that they would turn to a crisis line or substance abuse treatment center if they had a personal problem related to substance use.

Evidently, several factors are operative in interventions with Iowa youth: 1) a stigma (denial and embarrassment) associated with seeking professional help for oneself or one's child, 2) a shortage of local services for adolescent clients, 3) a reluctance on the part of school persons to refer students for substance abuse assessments, 4) an ineffective outreach effort by some local agencies, and 5) poor referral and follow-up arrangements between schools and local agencies. Helping agencies should assess each of the factors mentioned in relationship to the services they actually offer to youth and their families.

Community agencies and schools have developed some effective systems for identifying students experiencing problems and for providing the necessary help and follow-up. Most notable among the models is the student assistance program.

Community agencies and schools can also work together to establish support groups for children of chemically dependent families and support groups for "recovering youth" (aftercare groups).

Other community groups (e.g., 4-H, scouts, FFA, church youth groups) can offer youth some involvement and investment in nonsubstance alternatives. Such alternative behaviors should help youth meet some very important needs (e.g., sense of belonging, care-giving, achievement and fun and adventure) without resorting to substance use. Youth should be involved in developing and implementing the alternative activities or programs.

Agencies serving youth can work within communities to help modify community substance use norms and pro-use attitudes. Such agencies can begin to identify and change norms and actions that promote substance use and abuse, substituting norms and actions that promote healthy lifestyles.